The Antinoopolis Medical Papyri: a Case Study in Late Antique Medicine

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ABSTRACT

The main aim of my research project was to re-examine the Greek medical papyri from the Egyptian site of Antinoopolis dating between late 3rd up to 7th century AD, discovered mostly in a single area between 1913 and 1914. Antinoopolis offers the potential for putting documents into an archaeological context, and this geographical and chronological consistency facilitates a close comparison between the data preserved in these sources.

The interest in Antinoopolis, as far as the medical tradition is concerned, lies in the diverse healing practices attested by documentary, literary and archaeological evidence whose quantity and range is altogether exceptional among Egyptian villages.

The objective of my research is both papyrological-philological and cultural-historical. Firstly, I have tried to present the manuscripts and discuss their peculiarities, characteristics and functions. I have sought to improve our understanding of these fragments through the identification of new portions of text, the integration of supplements and a better assessment of their formal arrangement, which resulted in the revised edition of a few outstanding papyri.

In addition to this, I have tried to contribute to the evaluation of the general context of this Egyptian community, particularly as regards religious healing practices connected to the sanctuary of Collouthus, and to explore the historical and cultural circumstances in which these texts were used.

Finally, my research investigates the development of the codex throughout late Antiquity, which can be observed in a number of respects. One of the most significant concerns how the texts were assembled and presented, namely the interplay between container and content.

ZUSAMMENFASSUNG

Das Hauptanliegen meines Forschungsprojektes war die erneute Untersuchung der aus dem späten 3. bis 7. Jahrhundert n. Chr. stammenden griechischen medizinischen Papyri, die zwischen 1913 und 1914 hauptsächlich an einem Ort in der ägyptischen Stätte von Antinoopolis gefunden wurden. Antinoopolis bietet die Gelegenheit, diesen Dokumenten einen archäologischen Kontext zu geben, zumal die vorliegende geographische und chronologische Kontinuität einen detaillierten Vergleich der durch diese Quellen konservierten Daten begünstigt.

Das Interesse an Antinoopolis aus medizinhistorischer Perspektive ist durch die diversen Heilpraktiken begründet, die von den dokumentarischen, literarischen und archäologischen Beweisstücken bezeugt werden, und deren Quantität und Bandbreite für ein ägyptisches Dorf außergewöhnlich sind.

Das Ziel meiner Forschung an den Papyri ist sowohl philologischer als auch kulturhistorischer Natur.

Erstens habe ich versucht, die Manuskripte wissenschaftlich zu präsentieren und ihre Eigentümlichkeiten, Charakteristika und Funktionen zu diskutieren. Ich wollte unser Verständnis dieser Fragmente durch die Identifizierung neuer Textabschnitte, die Integrierung von Textzusätzen und eine genauere Untersuchung ihrer formellen Struktur verbessern, was zu einer überarbeiteten Edition einiger ausgewählter Papyri führte.

Darüber hinaus habe ich versucht, zum besseren Verständnis des allgemeinen Umfeldes dieser ägyptischen Gemeinschaft, besonders in Bezug auf religiöse Heilpraktiken im Zusammenhang mit der heiligen Stätte des Collouthus beizutragen, und die historischen und kulturellen Gegebenheiten zu untersuchen, in denen diese Texte genutzt wurden.

Schlussendlich untersucht meine Forschung die Entwicklung des Kodex im Allgemeinen über den Zeitraum der späten Antike, die an verschiedenen Aspekten beobachtet werden kann. Eine der interessantesten Fragen dabei ist, wie die Texte gesammelt und präsentiert wurden, d.h. der Zusammenhang von Aufbewahrung der Papyri und ihrem Textinhalt.

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CONTENTS

INTRODUCTION

The main idea behind the present study was to re-examine the Greek medical papyri from the Egyptian site of Antinoopolis, discovered mostly in a single area and dating between late 3rd up to 7th century AD. Antinoopolis offers the potential for putting documents into an archaeological context, and this geographical and chronological consistency facilitates a close comparison between the data preserved in these sources.

The interest in Antinoopolis, as far as the medical tradition is concerned, lies in the diverse healing practices attested by documentary, literary and archaeological evidence, whose quantity and range is altogether exceptional among Egyptian villages. In fact, Antinoopolis had a Christian healing sanctuary and at least one hospital institution run by professional physicians whose functions are being better defined by the on-going excavations and analysis of the materials from this site.

Moreover, the period of late Antiquity, which witnessed a pervasive interest in healing, has been taken into consideration for this inquiry because it represents one of the crucial stages in the transmission of medical tradition from classical Antiquity to the Middle ages, gradually bringing about far-reaching changes in terms of the way of selection and adaptation of medical knowledge.

A proposal for the revision of medical material from Antinoe was previously formulated to some extent by F. Gonnelli almost twenty years ago[1]; however, except for his valuable initial contribution, that project was never carried out. In more recent years, a few isolated studies have demonstrated how the re-examination of these papyri could be fruitful[2]. Consisting in the revised edition of single texts, those contributions have provided useful information and possible new scenarios concerning the authorship and content of a few selected manuscripts.

[1] Gonnelli 1997, 169f.

[22] See Leith 2006; Morelli 2010.

What I intend to present are the results of a more systematic inquiry into the Antinoopolis medical papyri. Though we are dealing with already published texts, further inspection of these materials have yielded improvements with regard to previous transcriptions. A comprehensive analysis of their content and format has made it possible to observe to a certain extent the medical culture of late Antiquity from within and to gain insights into a specific context. Papyri often preserve working copies more genuinely revealing in terms of their practical usage, which less frequently survived in the codices that have come down to us from the late Byzantine and Medieval period. The findings at Antinoopolis have brought to light different kinds of medical texts, but only a small fraction of them represents the Greek medical authors whose works have also come down in the later manuscript traditions. More numerous are the texts to which no author's name can be attached, the *adespota*. They preserve literary and semi-literary works from outside the canonical tradition, texts probably conceived for private use and, even more importantly, new material providing original information that would otherwise have been completely lost.

These medical writings enable us to form a reasonable critical judgment on their content and genres, and to sketch out what their audience was looking for. Thus, the objective of my research is both papyrological-philological and cultural-historical. By working on these texts, my aim was twofold: first and foremost, I have tried to present the manuscripts and discuss their peculiarities, characteristics and functions; I have also sought to improve our understanding of these fragments through the identification of new portions of text, the integration of supplements and a better assessment of their formal arrangement, which resulted in the revised edition of a few outstanding papyri.

In addition to this, I have tried to contribute to the evaluation of the general context of this Egyptian community, particularly as regards religious healing practices, and to explore the historical and cultural circumstances in which these texts were used and by whom including, whenever possible, their archaeological background in the discussion.

My research poses two central questions about the ways of transmission of medical knowledge in late Antiquity. Firstly, to what extent and with which characteristic features did earlier texts survive into the early Byzantine period? How did the physical arrangement of medical books change over time, adapting to the specific needs of their audience?
Secondly, to what extent did differing medical approaches combine in this Egyptian community? In what way might these medical papyri be an expression of an intercultural exchange?

This study is basically divided into three parts, respectively concerned with: (1) the profiles of epitomized texts with respect to established genres, particularly in relation to their function in professional practice and medical apprenticeships (Chapter Two); (2) an analysis of the iatromagical texts within their social setting, primarily as regards the interaction between folk medicine and academic medicine, and the controversial issue of medical and magico-medial papyri belonging to a common specialised library (Chapter Three); (3) the practical mechanisms of the transmission of technical texts, book production and readership in the early Byzantine period, which point to the flourishing of miscellaneous texts and to their circulation in a region in touch with Alexandria (Chapter Four).
Accordingly, the major methodological principles applied in this study may vary from section to section. Chapter Two and the second part of Chapter Three are text-based. To gain prime evidence, the manuscripts were studied directly by examining the originals and their high-resolution digital images. In the discussion of the papyri, attention is paid both to the contents and to matters of date, hands, format and use of lectional signs. In the revised editions, the papyrus text and the critical apparatus are preceded by a general introduction of the artefact and followed by a commentary containing the description of the contents, syntax and vocabulary as well as references to characteristic features. Thereafter, in one case, a supplement section is devoted to further discussion about more specific or disputed issues.

Chapter One and the first part of Chapter Three are more historical in orientation, drawing on recent work concerning archaeological and papyrological evidence and moving into an analysis of the cultural context in order to reconstruct a picture of the local medical environment. Sources of information pertinent to the study of Byzantine medicine in Antinoopolis are briefly outlined, including some supplementary evidence helpful for this research, such as Coptic papyri, secondary literature and archaeological remains.

Chapter Four utilises material from previous chapters mainly discussed in their formal aspect and looks at parallels that may facilitate their understanding.

Instead of presenting all the conclusions from the previous chapters in a final section, I considered it preferable to incorporate the results of each chapter's inquiry at end of each chapter. These sections provide a synthesis summing up the main issues discussed in the chapters, along with final considerations and conclusive remarks.

The methodological problems that I have tried to sort out mainly concern the fragmentary condition in which the manuscripts have been preserved, taking into account the risks necessarily involved. Studies in this area are constrained by the limited amount of textual evidence available, and by the fact that all these texts have been transmitted without any specific criterion of selection. It must not be forgotten that we are making generalizations regarding what survives, and that only conjectures are possible on what once existed but has been for the most part accidentally lost or deliberately recycled.

Nevertheless, with the proper caution and not in all cases, it is possible to infer much from this material. By researching the healing practices at Antinoopolis, we approach several aspects of ancient medical culture; for this reason, in an interdisciplinary perspective, archaeological and documentary data should also be taken into account in order to provide a picture that is as complete as possible.

The new facts that have emerged from recent excavations and from the scientific studies that are being carried out on this site may lead to progress in the debate. This evidence vividly highlights the dynamic nature of papyrological studies in general, as

the record for an individual papyrus of medical content changes over time to reflect new discoveries. It is hoped that the present contribution will serve as a practical aid to future research on papyrus texts from Antinoe and their context, and to later discussions on medicine in late antique Egypt.

CHAPTER ONE

The Antinoopolis medical tradition

1.1 First excavations and current state of the research

The excavation work at Antinoopolis (modern-day El-Sheikh Ibada), conducted by John de Monins Johnson for the Graeco-Roman Branch of the Egypt Exploration Fund with the precise purpose of recovering papyri, was undertaken between December 1913 and February 1914[3]. Antinoopolis or Antinoe (in Greek Ἀντινόου πόλις or for short Ἀντινόου) was situated in Middle Egypt on the east bank of the Nile, about 300 km south of Cairo[4]. The city was founded on October 30th 130 AD by Emperor Hadrian as he was travelling down the Nile and named after his favourite, Antinous, who drowned in the river in mysterious circumstances[5]; this event became the immediate and official reason for the foundation[6].

The papyrus finds from Antinoopolis were brought to light by Johnson from the rubbish-mounds mainly consisting of nitrate-laden dust (*sebâkh*) in the northern half of the site within the city walls, especially from area *M*, a *kôm* not far from the ruins of a church known as the Isis temple, and the adjacent *kôm N*. Less productive have been *kîman G* and *Z*, respectively in the eastern and western side of the site (Figs. 1,

[3] For an overview of the excavations, see Johnson 1914, 168-181; Andorlini 1998, 19-22; O'Connell 2014, 415-465.

[4] For the location of Antinoopolis, its territorial geography and urban structure, see Mitchell 1982, 171-179; Bosticco 1998, 41f.

[5] The cause of his death is undecided; according to Cassius Dio, *Hist. Aug.* LXIX 11, Antinous did not fall accidentally into the Nile, as claimed by Hadrian, but was drowned, or drowned himself, to fulfil of a prophecy of the Egyptian seers, who promised Emperor Hadrian prosperity and longevity if he sacrificed his most cherished possession, see also *HA*, *Hadr.* 14.5-6; Aurelius Victor, *Caes.* 14.7-9; cf. Milne 1913, 59 and n. 183; Birley 1997, 247ff.; Vout 2007, 54-57.

[6] The city was founded in Antinous' name and a cult with a strong Egyptian connotation was instituted in his honour, cf. Bickerstaff 2009, 39f.; similarly, other Egyptian villages were renamed in Greek after a deity to which they were consecrated, cf. Manfredi 1998, 40. On the characteristics of Antinoopolis in Hadrian's Era, see Boatwright 2000, 190-196.

2). These circumstances suggest a fortuitous finding and an overall scattering of literary materials, which do not legitimize any definite conclusions about their belonging to a common phase of activity. Nevertheless, the general results of the investigation on these literary artefacts are comparable with those of broader and more systematic surveys, and a few peculiarities in this overview, supported by archaeological data, should be considered distinctive of the Antinoopolis environment.

The first volume of the Antinoopolis series of papyri appeared in 1950, edited by C.H. Roberts, while the second and third volume were edited by J.W.B. Barns and H. Zilliacus in 1960 and 1967 with the assistance of F. Kudlien[7]. The Antinoopolis medical papyri are all preserved at the Sackler Library, Oxford, with only *P.Johnson* + *P.Ant.* III 214 housed at University College, London.

Two further texts, recently published by L. Del Corso and R. Pintaudi in 2015[8], were respectively found in the *kôm ramad*, a dumping area located west of the funerary church dedicated to Collouthus, and in the *N-W kôm*, a separate area nearby. These evidences include *PSI Ant.* Inv. NN 16-12-2013, a papyrus fragment concerned with natural remedies (*physika*) and the effects of certain substances on animals, still preserved among the finds of the archaeological Italian mission at Antinoopolis, and *PSI Ant.* Inv. 320 A, a collection of recipes on parchment recovered during the work directed by Bosticco in 1965 and currently stored at the Egyptian Museum in Cairo.

Though it is not a great papyrus site like Oxyrhynchus or Hermoupolis, the Greek-style city of Antinoe is remarkable in terms of the number of medical texts on papyrus which it has yielded. According to the *LDAB* on-line catalogue, they account for more than 12% of the Antinoopolis literary manuscripts published so far[9]. Out of 30 medical papyri, 25 are dated, according to palaeographical criteria, between the 4th and 7th cent. AD, whereas only 5 artifacts are attributed to the late 2nd-3rd centuries.

[7] For the authors and genres attested in Antinoopolis, see extensively Menci 1998, 49-55; Fournet 2009, 115-132.

[8] Del Corso – Pintaudi 2015, 3-29.

[9] Cf. Del Corso – Pintaudi 2015, 6f.

These texts have been mostly copied in the book-style format of the codex[10], and have been preserved in poor conditions, often resulting in numerous fragments of tiny extension. They generally appear as good quality copies from a technical point of view, and have been written in a limited variety of handwritings ranging from bookhand, especially of the uncial type, formal though somewhat irregular and customarily employed for literary works, to semi-cursive hand, more informal and ordinarily used for everyday non-literary documents.

The abundance of scientific and technical-practical handbooks in Antinoopolis testifies to the existence of teachers and students in specialized fields, such as tachygraphy, as confirmed by Theodoret (*Hist. Eccl.* IV 18, 7-14)[11], and medicine[12].

1.2 The *xenon* of Phoibammon

The work at Antinoopolis, carried out by a mission from the Istituto Papirologico 'G. Vitelli' of the University of Florence, began under the direction of Evaristo Breccia in 1935-36. After a long interruption due to the war[13], Manfredo Manfredi replaced Sergio Bosticco (1965-1998) in 1998 and remained as director of the mission until 2003 when the current director, Rosario Pintaudi, was installed[14].

Such ongoing work aims to create a complete archaeological picture of the ancient city from its Hadrianic foundation to its abandonment in the medieval period[15]. It

[10] See *infra* § 4.1.

[11] The teaching of tachygraphy, connected with the legal and administrative environment in town, is attested by a number of writing exercises on papyrus, cf. Menci 1998, 51.

[12] The existence of a medical teaching provided in a formal setting is debated among scholars, cf. especially Nutton 1983, 97, see *infra* § 3.1; 3.6.

[13] Pintaudi 2009, 83-114.

[14] For a report of the excavations at Antinoopolis between 2000 and 2007, cf. Pintaudi 2008, 1-15, 539-552.

[15] Since the January 2011 Revolution in Egypt, the ancient site of Antinoopolis has been greatly damaged by villagers from the nearby el Sheikh Abada. Graves have been dug illegally, ancient structures have been demolished on purpose and entire family groups, including young children, have dug and gone looting the entire north cemetery area while archaeological work was taking place. Additionally, caterpillar vehicles have been used to remove archaeological mounds in order to build new houses around the village and expand the modern cemetery, exposing and destroying ancient remains. It has been reported that several papyrus pieces found by the villagers have now been sold on the black market. A detailed document with extensive maps and photographs illustrating the damage

particularly involves the geological, numismatic, ceramic, and glass analysis, as well as the mapping of the visible features of the city and the excavation and conservation of the early Christian churches around the site of Antinoopolis under the supervision of the architect Peter Grossmann[16].

Over the years, excavations have provided striking archaeological and documentary evidence pertinent to the medical environment of Antinoopolis, concerning both religious and professional practice. On the one hand, a sanctuary complex was unearthed in the northern area of the Necropolis, attesting to the cult of the early 4th cent. martyr and physician St. Collouthus, who specialized in the treatment of ophthalmias, about whom I am going to speak in greater detail in the following chapter (see *infra* § 3.2; 3.3.).

On the other hand, the intense medical practice in Antinoopolis is attested by the names of a few physicians recorded in various documents, i.e. Tourbon Vetranos, mentioned in a land registry of the 4th century AD (*P.Herm.Landl.* I 567)[17]; Aurelios Serapion, attested in a divorce certificate dated 6th century AD (*P.Cair.Masp.* II 67155, 1-2); and Stephanus, whose name occurs in a Christian inscription of uncertain date[18].

Moreover, though not proved by archaeological evidence, at least one hospital institution existed in Antinoopolis[19], according to the legacy of the public physician Flavius Phoibammon (*P.Cair.Masp*. II 67151-67152, lines 182-195)[20], which reads as follows:

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has been posted by Pintaudi on the Vitelli Institute's website; cf. also Pintaudi – Del Corso – Delattre – Spanu 2014, 359-400.

[16] Grossmann 2010a, 147-163; 2010b 165-181; 2014, 241-300.

[17] Another occurrence of a Tourbon 'veteran' appears in *P.Gron.* 15 (Τούρβωνος οὐεταρνοῦ; ca. 101-200 AD, prov. unknown) centuries earlier than the physician attested in Antinoopolis, but he is perhaps an ancestor.

[18] Marganne 1984, 117-121; De Ricci 1903, 141-143; Lefebvre 1907, 190.

[19] The existence of more than one hospital in Antinoopolis has been hypothetically suggested by Grossmann 2014, 35.

[20] Maspero 1913, 85-101.

τὴν δὲ ἁγίαν διοίκηcιν καὶ ἐπιμέλειαν
καὶ πρόνοιαν τοῦ εὐαγοῦc ἡμῶν ξενεῶνοc κατὰ τὰc πατρο-
παραδόcειc ἐν ἅπαcι ὁρίζω(ν), καὶ βούλομαι καὶ κελεύω
185 τὴν πᾶcαν τῶ(ν) ἀρρώcτων φιλοκαλίαν τε καὶ ἐπιμέλειαν
καὶ διαιτοχορηγίαν περαιωθῆναι ἐπιμελῶc καὶ ἐπιπόνωc
ἀκαταφρονήτωc, εὐcεβεί<α> καὶ φόβῳ Θεοῦ καλλιεργουμένην,
μετὰ cπουδῆc πάcηc καὶ ἐπιεικείας, ἅμα τε διατελεῖcθα[ι]
παρὰ τοῦ προcφιλεcτάτου μου ἀδελφοῦ Ἰωάννου, καὶ ἔξειν
190 αὐτὸν ὡ[c]αύ[τ]ωc τὴ[ν] τῶν π[ρα]γμάτων πρεπόντ[ωc] τ[οῦ αὐτοῦ]
ξενεῶνοc κηδεμονίαν, εἰc ἀνανέωcιν διόλου [τῆc] τ[ῶν]
ἀρρώcτων φροντίδοc καὶ λειτου<ρ>γίαc καὶ ἀποτροφῆc τ[ῆc]
cυνήθο⌈υ⌉c· καὶ ἐξορκίζω αὐτὸν κατὰ τοῦ ἀενάου θ(εο)ῦ
τούτου μὴ ῥᾳθυμῆcαι τοῦ περιcπουδάcτου Θεοῦ ἔργου·
195 καὶ εἰ ἀμελήcοι ὄψεται πρὸc τὸν Θεόν.

183 ξενῶνοc **184** or ὁρίζω **189** ϊωαννου pap. **191** ξενῶνοc
194 or Θ(ε)ῷ (?) **195** or Θ(εό)ν

As regards the holy management, care and supervision of our worthy *xenôn*, which we have inherited from our father, I declare a wish and order that all the goodness, care and provisions bestowed on the sick should be carried out as well as performed carefully, painstaking and without reproach as a work of piety and in the fear of God with all diligence and gentleness by my most loving brother John and also that he should take proper care of the business matter relating to this *xenôn* to assure continuity of the care, service and power provisions bestowed on the sick, and I adjure him by eternal God not to make light of this diligent work of God – if he is negligent it will be settled before God.[21]

This document on papyrus, compiled by the notary Dioscorus of Aphrodito[22], is dated to 15th November 570 AD and was brought to light in Antinoopolis. It demonstrates the existence of a family of respected doctors who managed a hospital in town, where

[21] Translation by van Minnen 1995, 165; cf. Andorlini 2007b, 397.
[22] For the archive of Dioscorus, cf. Fournet 2008.

the *archiatroi* in charge of it may have received part of their education[23], and points to a hospital management imbued with a religious significance, even though the institution was privately run[24].

Historians agree that no hospitals existed in the modern sense before the Byzantine period, since Roman medical facilities were restricted to domestic servants, soldiers, gladiators and slaves[25]. Hospitals, in terms of facilities meant to heal patients indiscriminately, have to be distinguished from other philanthropic institutions, whose function it was merely to care for the poor by offering food, shelter and a minimum of medical treatment. Several definitions were employed in Byzantine sources to designate charitable institutions, but in formative stages these terms were used with a rather general meaning[26]. As a range of services could be offered by a single facility, in order to state whether or not a given philanthropic institution functioned as a hospital, one must rely on a careful consideration of the context rather than the specific term employed in written sources[27].

The earliest hospitals in late Antiquity developed out of Christian institutions for the poor and foreigners (literally *xenodocheia*) and were run by monks with no doctors involved[28]; only gradually did they evolve into specialised medical centres that resembled modern hospitals[29]. The first known *xenon* built as a permanent facility with doctors in attendance dates from 370 AD, and was built in Caesarea by Basil, Governor and Bishop of Cappadocia. From the 4th to 7th centuries, several

[23] Marganne 1984, 119f.; Andorlini 2007b, 397.

[24] Cf. Crislip 2005, 189 n. 8. Acording to this document, which anticipates some of the terminology of the administration of religious institutions current in the late Byzantine Period, the *xenon* of Phoibammon has been regarded as a private ecclesiastical institution, cf. Thomas 1987, 68.

[25] On these proto-hospitals (*valetudinaria*) and other medical facilities in the Greek-Roman period, cf. Harig 1971, 179-195; Nutton 1984, 9; Andorlini – Marcone 2004, 15; Andorlini 2006b, 95-98; Hirt Raj 2006, 142ff and 160ff.; for archaeological evidence, see Krug 1990, 220f.

[26] Miller 1984, 53. Among the numerous Greek terms designating these medical institutions, ξενοδοχεῖον generically indicates a shelter dedicated to pilgrims and aliens, and the suffix -τροφεῖον alludes to the care of the poor. Other compound words using the suffix -κομεῖον, *e.g.* λοχοκομεῖον, κελυφοχομεῖον, γεροντοκομεῖον, more specifically refer to institutions intended for the care of the sick, as it appears clear for νοσοκομεῖον, cf. Andorlini – Marcone 2004, 16-23.

[27] For the occurrence of Greek terms referring to healing places in papyri, cf. Ghiretti 2010, 39-46.

[28] Cf. Miller 1984; Wilmanns 1995; Prioreschi 2001, 104-119; Horden 2005; Andorlini 2007b.

[29] On parallels with modern practice, cf. Miller 1999, 323-335.

philanthropic institutions arose in other cities throughout the Byzantine Empire, although only some of them served as hospitals rather than hospices.

The most famous example of a Byzantine hospital is the Pantocrator located in Constantinople, founded in 1136 by Emperor John II Komnenos. It is especially important because its foundation charter (*Typikon*) is the only one to have survived and provides detailed information on how these medical institutions were supposed to function[30]. They guaranteed patients private beds arranged into separate sections, proper heating, bathing facilities and a specialised medical care supplied by a large staff of professional physicians, pharmacists and medical assistants; they were also equipped with separate buildings for a library and a lecture hall intended for administrative and teaching functions[31].

Although strictly speaking the introduction of formal teaching into Byzantine hospitals appears to have taken place by the 12th century – at least partly influenced by the Arab world – practical texts employed in medical teaching are already attested at St. Basil's Hospital in the 4th century; moreover, the case of Flavius Phoibammon shows that medical instruction could also be conceived in the early centuries within hospital premises in terms of family units[32].

1.3 Medical genres

Evaluating the contribution of these papyri belonging to the medical literary tradition of late Antiquity is a difficult task. Besides their fragmentary condition and the lack of very precise information on the contextual evidence of origins and application, among the reasons for this precariousness is the difficulty to recognize traces of manuals, treatises and recipes of unknown authorship in the medieval tradition, where Hippocratic and Galenic Corpora prevail along with a few later compilations.

The Antinoopolis papyri contain a wide range of material in terms of genres, fields

[30] Prioreschi 2001, 114f.

[31] Medical education in Byzantine hospitals consisted of practical training under the supervision of a senior practitioner, rather than a systematic study of traditional treatises. Nevertheless, manuals and practical handbooks were widely employed, cf. Miller 2013, 199-215.

[32] Andorlini 2007b, 396f.

and aspects of the medical practice with which they are concerned. These artefacts are representative of the main textual genres circulating in Egypt between the 4th and 7th centuries AD, and the combination of their content and formal aspect can be revealing about the original correspondence between the material copy and the usage and target readers of the manuscripts.

At the same point in time, different texts were transmitted and studied, and two main typologies can be recognised. Firstly, the Antinoopolis medical papyri contain entire works by extant authors: five codices preserve extensive fragments from the Hippocratic Corpus (*Superf.*; *Aph.*; *Nat. Hom.*; *Progn.*; *Mul.*), and one from Galen's *De comp. med. per gen*. Enhanced with marginal notations, *scholia* and comments that find no correspondence with the manuscript tradition, they have to be considered as study copies, especially as regards the Hippocratic *Aphorisms*, which played a relevant role in teaching medicine[33]. No less important as far as text quality is concerned, they point to the unconventional nature of the Greek language used, not attributable to scribal errors and possibly attesting to a semi-independent tradition.

The remaining papyri preserve various anonymous or partly anonymous texts that point to the wealth of literary works produced by physicians in late Antiquity, thereby increasing our awareness of the huge amount of lost medical literature[34]. Apart from a few scanty fragments that it is difficult to assign to a specific genre, it is possible to recognise medical manuals with some literary pretensions; handbooks and medical compendia designed to serve the practical needs of the physicians; collections of prescription, and a number of papyri attributable to the genre of medical encyclopaedia[35]. Such kinds of texts contain in a limited extension a great variety of

[33] Aphorisms provide theoretical principles and specific examples in a concise format that is easy to remember; the prominence of these works as didactic texts in the medical schools of Alexandria in late Antiquity is testified to by the surviving commentaries on Hippocrates by Stephanus or Joannes Alexandrinus, cf. Hanson 2010, 188. On this tradition, see also Duffy 1997; Wolska – Commus 1989, 5-89.

[34] Andorlini 1993, 460ff.

[35] The use of the term encyclopaedia to refer to such works is controversial to a degree. One should be careful not to project one's personal conceptions, since their arrangement according to topic and the material excerpted from earlier texts do not correspond to those of modern encyclopaedias. The difficulty of making the proper distinctions between ancient abridgments is emphasised by the inconsistency of ancient terminology, including *e.g. sunagôgê*, *epitomê*, *eklogê*. On the terms used by

topics especially concerned with dietetics, surgery and pharmacology.

The evidence is striking since these categories of papyri generally correspond to two models of medical education, which appear combined in the same environment[36]. On the one hand, the Hippocratic and Galenic texts, which comply with the medical canon in the academic context, point to a formal education possibly received through lectures and based on the exegesis of traditional texts, well documented by Alexandrian iatrosophists in 6th and 7th century AD commentaries[37]. These compositions probably demanded a learned audience, specific institutions and a urban setting which is not found everywhere in the Byzantine Empire.

On the other hand, pharmacological manuals and medical compilations reflect the demand for practical skills and appropriate knowledge of therapeutics, pharmacology and *materia medica* in the exercise of the medical profession. In some cases, the traditional material has been reworked according to specific devices employed in Byzantine medical literature meant for a didactic and/or rhetorical purpose.

I shall provide an overall classification of the 30 medical papyri found at Antinoopolis in light of the recent analysis and identification of new portions of text[38]. My initial descriptions of the 30 papyri of medical content unearthed at Antinoopolis offer a summary of these manuscripts before I proceed on to detailed examination. My catalogue is chronologically arranged according to the presumed date of each papyrus and includes all relevant information and identification numbers in Mertens-Pack[3] and the pertinent Leuven databases.

The digital editions of the majority of the Antinoopolis medical papyri are contained

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medical compilators in Antiquity and the Middle Ages with reference to their own works, cf. Broccia 1979; van der Eijk 2010, 520.

[36] Andorlini 2007b. On the combination of theoretical and practical aspect in medical books, cf. Marganne 2004, 77-78.

[37] Cf. Duffy 1997, 9-11. For the Alexandrian curriculum in Greek sources, see Stephanus 1983, 30.1-32.27; Palladius 1977, 18.17-20.5. For the Arabic tradition and a shortened version of the canon, see Iskandar 1976, 237-239 and 249.

[38] For a general classification of Greek medical papyri, including the Antinoopolis medical texts, cf. also Andorlini 1992, 475-549.

in the *Digital Corpus of Literary Papyrology* (DCLP)[39].

[39] The digital corpus of the Greek medical papyri is resulted from the work of the DIGMEDTEXT project, cf. Andorlini – Reggiani 2012; Bertonazzi 2018, 24-9; Reggiani 2018, 10ff. On the digital editions of the medical papyri from Antinoopolis, cf. Corazza, forhcoming.

	MP[3]	*LDAB*	Century	Book-style format	Genre	Content	Authorname	Attested *apud*
P.Ant. III 138r	2353.6	5088	II-III	papyrus roll	Treatise (?)	Therapeutics (?)		
P.Ant. III 129	2346.1	5358	III	papyrus codex	Treatise	Anatomy, physiology		
PSI Ant. Inv. NN 16-12-2013	--	642455	early III	papyrus codex	Treatise	*Physika*		
PSI Ant. Inv. 320 A	--	642454	III	parchment codex	Prescriptions	Kataplasmata		
P.Ant. III 133	2353.3	5551	III-IV	parchment codex	Treatise (?)	Anatomy, physiology (genital organs)		
P.Ant. I 28	543	1306	early IV	parchment codex	Treatise	*Progn.* 24-25; *Aph.* I 1-3	Hippocrates	
P.Ant. III 134	2391.3	5708	IV	papyrus codex	Treatise (?)	Therapeutics (?)		
P.Johnson + *P.Ant.* III 214	2095	5828	IV-V	papyrus codex	Illustrated Herbal	Botanics, pharmacology; *De virt. herb.*	Thessalus of Tralles	
P.Ant. III 186 + *P.Ant.* III 139	456.2	1073	V	papyrus codex	Treatise	*De comp. med. per gen.* I-II, VII	Galen	
P.Ant. II 66	2391	5992	V	papyrus codex	Prescriptions	Magico-medical		
P.Ant. III 148	2809.5	5996	V	papyrus codex		Medical prose (?)		
P.Ant. III 140	2391.5	6135	V-VI	papyrus codex, (opistograph?)	Prescriptions	Magico-medical		

	MP[3]	*LDAB*	Century	Book-style format	Genre	Content	Authorname	Attested *apud*
P.Ant. III 137r	2353.5	6139	V-VI	papyrus fragment (?)		Medical prose (?)		
P.Ant. III 183	543.3	1308	VI	papyrus codex	Treatise	*Aph.* III 20; scholia	Hippocrates	
P.Ant. III 184	545.1	1309	VI	papyrus codex	Treatise	*Superf.* 32, 33-34, 38-39, 41-42; *Mul.* I 1-2, 25; II 32-33, 174-175, 180, 182, 205	Hippocrates	
P.Ant. II 86	544	1310	VI	papyrus codex	Treatise	*Aph.* V 43-68; VII 36-43, 54-59	Hippocrates	
P.Ant. III 185	539.1	1307	VI	papyrus codex	Treatise	*Nat. Hom.* 15-16	Hippocrates	
P.Ant. III 123	2388.1	6318	VI	papyrus codex	Treatise?	*Mat. med.*	Dioscorides (?)	
P.Ant. III 124	2380.1	6316	VI	papyrus codex	Treatise	Dietetics, fever		Hipp., *Aph.* I 16 Orib., *Coll. med.* VI 30.1
P.Ant. III 125	2383.1	6317	VI	papyrus codex	Treatise, medical encyclopaedia?	Dietetics	Herodotus	Aet. IX 2.276-8
P.Ant. III 128	2362.5	6315	VI	papyrus codex	Treatise, medical encyclopaedia (?)	Nosology, Therapeutics	Antyllus	Stob., *Anthol.* IV 37.16.13-15; Orib., *Syn. ad Eust.* II 60.13.1-14.2; Paul, *Epit. med.* VII 24.11.34-37

	MP[3]	*LDAB*	Century	Book-style format	Genre	Content	Authorname	Attested *apud*
P.Ant. III 130	2391.1	6319	VI	papyrus codex	Handbook (?)	Pharmacology (therapeutics?)		
P.Ant. III 131	2353.2	6313	VI	papyrus codex	Treatise (?)	Therapeutics? (pulmonary diseases?)		
P.Ant. III 132	2391.2	6320	VI	papyrus codex	Prescriptions	Pharmacology, magic?		
P.Ant. III 135	2391.4	6321	VI	papyrus codex	Prescriptions	Pharmacology, therapeutics?		
P.Ant. III 136	2353.4	6314	VI	papyrus codex	Treatise?	Nosology?		
P.Ant. II 64	2390	6323	VI	papyrus codex	Handbook (medical encyclopaedia?)	Pharmacology (therapeutics?)		
P.Ant. III 146	2581.2	6327	VI	papyrus codex		Medical prose?		
P.Ant. III 126	2362.3	6475	VI-VII	papyrus codex	Medical encyclopaedia	Therapeutics / surgery tonsilllitis		
P.Ant. III 127	2362.4	6586	VII	papyrus codex	Treatise, medical encyclopaedia (?)	Nosology (anatomy), pharmacology, medical and magico-medical prescriptions	Alex. Trall., *Therap.* II 377.22-24; II 375.21f.	

CHAPTER TWO

Examples of late antique medical compilations

2.1 Abbreviating genres

The development of abbreviated literary forms in the period between the 4th and the 7th century AD, as well as the reliance of medical writers upon their predecessors, is a relevant aspect of late antique medical literature[79]. Without usually preserving the classical tradition in its textual integrity, the works of earlier authors circulating in the early Byzantine period are characterised by the flexible form in which they were transmitted, and it was common to combine different texts in manuscripts on the basis of topic and usefulness. Though Hippocratic and Galenic writings continued to be copied, what survives of Byzantine texts preserves only few commentaries on traditional authors, and only in rare cases did manuscripts contain marginalia derived from lectures[80]. Medical books apparently did not focus on developing further discussions and new ideas; rather, they consisted of craft texts collecting a wide range of material mostly concerned with therapeutics.

Long dismissed as being simply a continuation and imitation of Greek-Roman medicine and belittled for their static nature, such texts have definitely been revaluated[81]. Scholarly contributions in relatively recent years have released them from a generally unfavourable image, demonstrating that Byzantine abridgments and compilations also preserve fresh material, usually deriving from the personal

[79] Cf. Horster – Reitz 2010, 3-14; van der Eijk 2010, 519-554; Nutton 1984, 1-14. On the physical characteristics of the codex as a fundamental factor in the intensive activities of compilation extending over the entire Byzantine literary production, cf. Piccione 2003b, X; Cavallo 1989.

[80] Commentaries on Hippocrates and Galen are more frequently attested in a few geographical areas, i.e. Western Europe and the Muslim world, from the thirteenth century onwards, cf. Nutton 2013, 7-18.

[81] Cf. *e.g.* Nutton 1984; De Lucia 1999.

experience of physicians. Byzantine medical literature displays a great capacity to evolve and adapt to different circumstances. From a literary perspective, medical compilations of late Antiquity give proof of their authors' rhetorical ability and effort to summarise the material in order to transmit the message in the clearest and most effective way[82]. Condensed texts still represent unique assemblages, and differ from each other as regards the methods of selecting, ordering and presenting material.

The activity of re-arrangement occurring at different levels of intensity led to the elaboration of a number of abbreviating genres. The significance of the interventions on the text could vary greatly, from small deletions and innovations to entirely new creations based on different materials, and the length of the excerpts could range from single sentences to complete chapters. As a consequence, it is no easy task to assign medical books – and especially medical books on papyrus – to a precise category, and to determine which mechanisms of transmission were employed in these examples. The main difficulty to be kept in mind is that we deal with fragmentary evidence. From a literary perspective, for example, it is a challenging issue to distinguish between the mechanical collection of excerpts (i.e. the inventory) and the creative, conscious process of selection by a medical writer (i.e. the invention). For this reason, the answers to the specific questions about the compilation process should be based, as far as possible, on a consideration of all aspects of the texts and the contextualisation of the data.

The analysis of the content of the manuscripts should not be separated from that of their formal aspect, particularly as regards the ways it might reflect the compiler's purpose. One should take into consideration, for example, the presence of lectional aids (headings, spacing, marginal notations) and their function of facilitating reference in the medical practice, the quality and size of the textbooks and their usage, when recognizable (i.e. small portable manuals vs. elegant copies for only occasional reference). In the attempt of investigating this range of medical books on papyrus, the main aspects of these texts might be summarised as follows.

[82] Cf. Nutton 1984, 1-14; Bennet 2000, 297-291.

Firstly, when looking at the sources, the compilers of the anonymous compendia may either have had access to entire medical treatises, *e.g.* Hippocrates' or Galen's, or they may have drawn from later compilations summarising these works. Condensed books often enable us to reconstruct prior medical works not otherwise attested, and played a central role in the process of transmission, whether they implied a faithful transmission, namely the passing on of a portion of text from one to another, which may still include misreading and miscopying, or a loose transmission, when textual material is completely rearranged, or affected by cross-contaminations by parts of other texts[83].

Secondly, these condensed forms point to different textual genres, consisting of either reshaped versions of a single work characterised by brevity or, more frequently, text corpora based on a selection of excerpts, such as collections of recipes, *iatrosophia* and medical encyclopaedias. Therapeutics included several typologies of texts, such as medical prescriptions, lists of substances used for healing (*materia medica*), and descriptions of pharmaceutical techniques for the preparation of medicines[84], which often coexisted in the same books. As far as formal structure is concerned, medical compilations based on earlier or contemporary authors usually have a thematic structure and are personalised. They could be arranged according to diverse principles, i.e. by author, medical discipline, type of disease, and kind of remedy[85].

Thirdly, the process of compilation is always connected with the functions and applications of the manuscript. For this reason, when studying this kind of texts, the criteria of abbreviation have to be examined in the light of the cultural-historical conditions that created the need for such formats. Practices of condensing texts have various motivations. Certainly one reason for abridging is the wish to preserve what has been handed down, but more practical goals exist alongside[86]. To this regard, the examination of therapeutic texts is a striking point of such an inquiry, as they

[83] Cf. Horster – Reitz 2010.

[84] See Touwaide 2007, 147-173.

[85] Andorlini 2007a, 25.

[86] On the typologies of texts of practical utility circulating in Byzantium and their definitions, i.e. "letteratura d'uso strumentale", "Gebrauchsliteratur", "literature d'usage courant", cf. Garzya 1981, 263-287.

normally reveal an applied approach to medicine and can be regarded as a substantial category of practical texts. It is worth recalling, however, that the usefulness of a medical book is not simply defined by the fact that it was employed in the doctor's day-to-day professional life and during consultations between physicians and patients. Therapeutic books could also have a scientific purpose and be used by scholars who had nothing to do with medical practice[87] and, when collected in personal libraries, may even be seen as a display of luxury, i.e. as symbols of wealth and learning.

In medical compilations and encyclopaedias, the part of the text providing extensive background information is the preface, which usually contains methodological guidelines and often reveals the author's aim. Illustrative examples are the prefaces to Aetius' and Paul's writings, but in particular, the three main works by Oribasius show how the same medical material could harbour different functions: the Σύνοψις, dedicated to his son Eustathius, is a didactic compendium specifically conceived for medical students and apprentice physicians; the Ἰατρικαὶ συναγωγαί, dedicated to Emperor Julian, is a scholarly encyclopaedic treatise theoretical in content and scientific in purpose; the Εὐπόριστα is a handbook intended for the dissemination of basic medical knowledge among aspiring physicians or novices in the field, useful under particular circumstances in which a proper physician was not available, such as periferal areas or on journeys (cf. Photius, *Bibl.* 219)[88].

Statements about the purpose and goal of the epitomising authors, however, seldom – if ever – survived in anonymous texts on papyrus. The functional aspect of condensed books can be essentially inferred from their pragmatic context and literary design, which mostly reveals the strategies of abridgments as based on aesthetic principles and mnemotechnical mechanisms. In particular, one important aspect to be investigated is the link between compilation genres and teaching practice.

[87] This is the case of medical manuscripts used by Medieval scholars, cf. Horden 2013, 1-6.
[88] Garzya 2006, 16f.

In research on abbreviating medical genres, the examination of the Antinoopolis papyri is revealing, since the latter provide evidence on how medical knowledge was transmitted and changed over time. In a number of cases, they show similarities with already known texts and yet maintain their condition of original re-elaborations. Among such papyri it is possible to distinguish several medical genres and diverse kinds of usefulness. Despite the large variety of contents, however, no relevant distinction has been observed between medical and iatromagical texts, which attest to the use of similar components and are arranged according to common patterns.

The difficulty of identifying the sources of these texts is particularly evident in the case of papyri pertaining to the genre of medical compilations and encyclopaedias. An illustrative example is *P.Ant.* III 125 (6th AD; MP^3 2383.1, *LDAB* 6317)[89], a good quality papyrus codex large in dimension with wide margins written in a careful book hand. The manuscript, preserved in very poor condition, survives in 50 fragments, only 44 of which are edited. A few medical terms suggest a text in which dietetics is discussed, but in several places the traces do not provide enough records to reconstruct the passages. The resemblances pointed out by Gonnelli between frr. 1 *(a)*, 2 *(a)* and 3 *(a)* and *(b)* and Aetius IX 2, a chapter on stomach diseases by Herodotus, enable us to make some conjectures on the content of the codex. This papyrus might preserve either the remains of Herodotus' περὶ κενουμένων βοηθημάτων (2nd cent. AD) now lost, or – more likely – a secondary source based on this author, not unlike Aetius' work. In both cases, *P.Ant.* III 125 testifies to the circulation of Herodotus' medical text in Egypt during late Antiquity, and shows how medical issues were discussed by following eclectic and empirical argumentations.

Apart from medical compilations, which represent the majority of this type of evidence, the Antinoopolis medical papyri include abridgments of entire works, whose original structure has not been substantially modified. This is the case of *P.Johnson* + *P.Ant.* III 214, which appears to preserve a shortened version of the astro-botanical treatise by Thessalus Trallensis. Although the papyrus contains

[89] Barns – Zilliacus 1967, 45-52; Gonnelli 1997, 169-182.

frequent omissions and is differently arranged as regards the order of the items, its source was not used to enrich a medical text on multiple topics. Instead, *P.Johnson* + *P.Ant.* III 214 contained a cohesive treatise, i.e. an illustrated herbal, derived from a single source carefully copied as a library text, in which the aesthetic value of the images surpasses the accuracy and wealth of medical information characteristic of a practically oriented manual (see extensively *infra* § 4.2).

Similar to some extent is *P.Ant.* III 123 (6th cent. AD; MP^3 2388.1, *LDAB* 6318)[90] which contains the remains of a Ὕλη ἰατρική verbally similar to Dioscorides, but not identical. For example, fr. 4 *(a)* preserves a quotation from Diocles which finds no parallel in any other known medical text. The fragmentary condition of the artefact does not allow us to identify the criterion according to which the material was arranged, and therefore whether the items were listed in the same order as Dioscorides or not. Like the papyrus above, this treatise seems to have been homogeneous in content, even though its author presumably gained material from more than one source, and its content is more practical.

The Antinoopolis medical papyri generally show a strong practical commitment. As far as therapeutics is concerned, they mostly preserve quite extensive descriptions of medicinal preparations. Simply lists of ingredients are not attested; instead, recipes usually provide ranges of application, ingredients with doses, and precise directions for administration that have not been entirely omitted even when prescriptions are concisely copied. In a few cases, they seem to have been grouped according to the bodily part they intended to cure, which is a thematic criterion frequently employed in later Byzantine hospital handbooks. Such recipe books might have been arranged as healing manuals facilitating ready reference in a specialised library or at the bedside, providing information on various aspects of therapy from preparation to application. When medical recipes appear to be more briefly worded with un-quantified ingredients and concise directions for use, it could depend upon the experience of a doctor to decide on the quantity and usages according to availability and need.

[90] Barns – Zilliacus 1967, 31-37.

One could speculate that this kind of prescriptions could have worked well in a hospital where a staff of assistants prepared and dispensed remedies under the supervision of a physician, similarly to those handbooks falling into the category of *iatrosophia*. *Iatrosophia* developed during the mid- and late Byzantine Empire and remained popular until the Ottoman period, from about 10th to 19th cent. AD. They were manuals covering a great variety of content, including both professional and folk medicine[91]. Handbooks of this sort were meant to serve practical purposes and, though ascribable to many different typologies, they shared a few characteristic features, among which the focus on the treatment of the most common diseases and a clear form of expression, consisting of short sentences and recurring formulas[92]. Copied and reproduced over centuries by individual physicians and folk healers in their own practices, or collectively by a community of doctors and hospital personnel, these dynamic documents reflect a free use of earlier texts. Previous medical knowledge incorporated new pharmacological developments, further experimentation, clinical observations and innovative techniques taken from daily praxis to best suit the needs of a specific time and place[93]. Their former expression can be found in the compendia of medical writers like Oribasius (4th AD), Aetius (6th cent. AD) and Paul of Aegina (7th cent. AD) who compiled readable, well-balanced corpora in the form of medical encyclopaedias.

The existence of similar compendia in the context of Antinoopolis could be significant, since they have been considered as an important instrument of professional medicine practiced in Byzantine *xenones* and for the instruction of students in the medical schools adjacent to hospitals[94].

[91] The ongoing cataloguing of such medical manuscripts, based on the analysis of their textual types, origins and intended readership, is faced with the difficult identification of texts, cf. Touwaide 1992, 75-92. On the edition of such medical texts, still unpublished to a large extent, cf. Morrone 1997-1998, 247-288; Garzya 1999, 165-171.

[92] Ieraci Bio 1982, 33f.

[93] Touwaide 2007, 147-173.

[94] Byzantine hospital manuals generally contained mention of the date and place where they were written; when explicit indications are not reported, textual and codicological analyses can reveal geographic location and date, cf. Jeanselme 1930, 168f.; Touwaide 2007, 147-173.

However, we have no clear evidence that the Antinoopolis papyri were employed within a hospital facility. Moreover, even though a few characteristics apparently comply with the genre of the late Byzantine *iatrosophion*[95], a distinction needs to be made between these hospital manuals and the Antinoopolis texts.

At an earlier stage Byzantine medical compendia involved a more comprehensive approach to medical issues, including both prescriptions of medicines and theoretical explanations of their action. Authors like Oribasius, Aetius and Paul of Aegina brought together various materials in order to combine different types of information, such as Dioscorides' inventory of substances and Galen's theory on disease[96]. This is the combination found in the majority of medical compilations from Antinoe. By contrast, in the late Byzantine period, when the *iatrosophion* established itself as a literary genre, the lack of theoretical speculations in favour of a more descriptive approach to medical issues became a peculiarity of this kind of text[97].

The examination of the criteria of arrangement and refunctionalisation of material constitutes the core of this investigation. My aim and attempt is to track the patterns of compilation that shaped these medical manuscripts, inferring from them the circumstances of their application.

In what follows, I will examine three codices, namely *P.Ant.* III 128, *P.Ant.* III 126, and *P.Ant.* III 124, striving for a better assessment of their content and format, basically depending on the restoration and identification of new portions of text. Even when final answers are not possible, I will consider a few representative typologies of early Byzantine medical compilations, not in any hope of attaining

[95] The characteristics of Byzantine *iatrosophion* are not well-established; rather, it is described as a mixed genre which includes different styles. To some extent, also a few of Galen's works such as *De metodo medendi* have been regarded as belonging to the category of early *iatrosophia*, cf. Nutton 2013, 11.

[96] Cf. Touwaide 2007, 147-173.

[97] This characteristic feature the has been regarded as due to some extent to the process of the Christianisation of medicine, according to which properties of medical substances were no longer subject to traditional medical explanations, but were ascribed to God's will.

comprehensiveness but to establish a working framework that might be enriched as new evidence is considered.

2.2 Fragments of Antyllus in *P.Ant.* III 128

P.Ant. III 128 (*a*) ↔, (*b*) ↕ (Oxford, Sackler Library, Papyrology Rooms P.Ant. 128)	fr. **1** 9.2 × 3.8 cm; fr. **2** 11.5 × 10.7 cm; fr. **3** (i) 3.3 × 4 cm + (ii) 3.5 × 2.5 cm; fr. **4** 1.9 × 1.5; fr. **5** 1.7 × 2.3 cm; fr. **6** 2.1 × 2.5 cm; fr. **7** 2 × 3.4 cm	6th AD
MP^3 2362.5; *LDAB* 6315		Antinoopolis

The remnants of *P.Ant.* **128**[59] consist of 7 fragments of a papyrus codex currently preserved at the Sackler Library in Oxford. The text is aligned along the left and right margins, and is written in a literary upright hand of 'Coptic uncial' type assigned to the 6th cent. AD (cf. *e.g. P.Rain.* III 45 6th-7th AD; *P.Oxy.* XX 2258 6th-7th AD)[60], adhering to strict bilinearity with few exceptions. The manuscript is largely preserved in fragmentary condition, insomuch as its content appears uncertain or barely intelligible to some extent, especially in frr. 4-6. No lectional or punctuation signs are to be found except for the *paragraphos* in fr. 4 *(b)*.

The *editio princeps* by Barns did not detect any overlapping with already known texts. Only recentlyfr. 1 *(a)* was identified with a passage containing a description of the effects of cold air on the human body preserved in Stobaeus[61], *Anthologium* IV 37.16.13-15 under the name of Antyllus, a Greek physician of the Roman period living some time between Archigenes (end of the 1st cent. AD) and Oribasius (second half of the 4th cent. AD). Probably belonging to the 'pneumatist' school, he is credited with a number of medical works on pharmacology, dietetics and especially surgery only partly survived in later medical writings. Galen does not mention Antyllus, therefore we must rely on the information provided by later authors like Aetius, Paul

[59] Barns – Zilliacus 1967, 58-60; http://litpap.info/dclp/65074.

[60] For samples of manuscripts written in the Coptic uncial, see Irigoin 1959, 29-51; Cavallo-Maehler 1987; Turner 1987, 126 and n. 47.

[61] Witt 2015, 53-73. The identification of fr. 1 with Stobaeus was also the outcome of my inspection of *P.Ant.* III 128, presented during the conference "Medical Papyri in a Digital World", Parma 7-10 September 2015.

of Aegina and especially Oribasius, who preserves most of the fragments of his works. Other excerpts are recorded by Stobaeus, and a few passages can be found in the works of the Byzantine author Niketas (Περὶ ὑδροκεφάλων)[62].

Remarkable similarities, although no *verbatim* quotations, have also been found between fr. 1 *(b)* and Orib., *Coll. med.* IX 13.1, an excerpt from the same author on a related topic[63].

On inspecting the original manuscript and high-resolution digital images, I have succeeded in identifying fr. 3 (i) *(a)* with a passage ascribed to Antyllus quoted by Oribasius, *Syn. ad Eust.*, II 60.13.2-14.2 and Paul of Aegina, *Epit. med.* VII 24.11.35-38, taken from a chapter about the addition of mineral, vegetal and animal components in the preparation of plasters undergoing a boiling process (Ἐκ τῶν Ἀντύλλου περὶ ἑψήσεως τῶν ἐμβαλλομένων εἰς τὰς ἐμπλάστρους φαρμάκων). Additionally, a comparison can be made between fr. 3 (ii) *(a)* and Oribasius, *Syn. ad Eust.*, II 60.13.1-2 = Paul, *Epit. med.* VII 24.11.34f., i.e. the opening lines of Antyllus' passage preserved in fr. 3 (i) *(a)*. If both fragments belonged to the same excerpt a general rephrasing and a different arrangement should be supposed in the papyrus at this point (cf. commentary *ad loc*.). I would therefore like to offer a revised edition of *P.Ant.* III 128 and a fresh assessment of its content.

Fr. 1 *(a)* is introduced by a short title containing the author's name (Ἀντύλ λου) set at mid-column and separated from the main text by the space of approximately one line. The significance of this title is discussed by Witt in particular, who rejects Barns' identification of the author's name with the proper heading of the subsequent passage(s) on the basis of the fact that the introductory heading cannot be inserted in the middle of a statement, and it is even less likely to be found in correspondence to the division of a word at the end of a line: in fact, the beginning of the quotation in the papyrus coincides with the last two letters of the term εὐτονίαν in Stobaeus. He assumes that we may be dealing either with a column title or a marginal notation

[62] Cf. C. Petit in Bagnall – Brodersen – Champion – Erskine – Huebner 2011, 506; Nutton, *Antyllus* in *New Pauly* 1996, 817f.; Wellmann in *RE* 2644f. For a collection of fragments (Greek and Arabic) by Antyllus on surgery and therapeutics, cf. Varelis 2001; Sachs – Varelis 2001, 61-86.

[63] Cf. Witt 2015, 37 n. 10.

inserted in the form of a column title, possibly added by a second hand as there is a certain difference in the style of writing, which appears less calligraphic, with the υ at the end of the line written in shape of Y with the vertical part exceptionally extending below the notional line. In case the title is a subsequent addition, he observes that a contextual copy is not to be ruled out, since one scribe could be assumed to have been asked to copy the main text, and another one to add the column titles.

I am rather inclined to consider the title in fr. 1 *(a)* as written by the same hand. Indeed, the letter formation in line 1 is similar to that of the main text and it does not seem necessary to suppose that a different writer was at work[64]. Moreover, letters at the end of the line projecting into the right-hand margin or transgressing the notional lower/upper line are frequently attested in papyri[65].

The hypothesis of a column title in *P.Ant.* III 128 is intriguing as it may point to the employment of specific devices for easy reference, and cannot be excluded in view of the knowledge available at present. One might argue against this assumption that the column title is not contained at the top edge of the same fragment on the back, whose upper margin is entirely preserved; however, according to Witt, such discrepancy might be explained by assuming that the author's indication was provided only in correspondence to a transition from one author to another. The resemblance between fr. 1 *(b)* and Antyllus *ap.* Orib., *Coll. med.* IX 13.1 might endorse this conjecture, but it is not confirmed by any parallel instance in the extant Greek medical manuscripts[66].

An alternative hypothesis might be that fr. 1 *(a)* contained the introductory heading of Antyllus' text erroneously quoted in a shorter form, presumably because it was found in the original source divided at this point into two pages or columns. Whether the

[64] In Greek literary papyri titles can be found written either in a more accurate (cf. *e.g. P.Mich.* VI 390 [2nd AD] MP^3 625, *LDAB* 1978 ; *P.Harr.* I 123 [3rd AD] MP^3 1019, *LDAB* 1895), or quicker style of writing (*P.Berol.* 9780*v* [3rd AD] MP^3 536, *LDAB* 1286), cf. Bastianini 1996, 27. For variations in the work of a single writer on a single medical text, cf. Andorlini 1996, 14 n. 24.

[65] Cf. *e.g.* the documentary text on *P.Berol.Möller* 13 *verso* (3rd-4th AD), where the υ is V-shaped and written at the end of the line with the right-hand branch extending above the notional line.

[66] Witt suggests that the previous existence of column titles in medical books might be inferred from the lack of correspondence between chapter titles and content sometimes attested in a few compilations, such as Oribasius' *Collectiones medicae*, which seems likely to have resulted from the inclusion of the indications originally given as column titles or marginalia in the main headings, cf. Witt 2015, 64f.

copyist of *P.Ant.* III 128 was responsible of this neglectful transcription or drew upon another copy reporting this shortened version cannot be stated.

The identification of new portions of text allows us to make a few considerations concerning its content, genre and sources. First of all, the extant fragments point to a variety of interests in medical issues. By selecting more than one passage by the same author and apparently following no other criterion, the anonymous compiler collected pharmacological and technical indications along with a more generic discourse. According to the heading preserved in fr. 1 *(a)*, which points to a miscellaneous content, one may exclude that the codex contained a direct copy of Antyllus. As supposed by Kudlien[67], this papyrus rather preserves the remains of a medical encyclopaedia in the style of the Byzantine compilers incorporating material directly or indirectly excerpted from Antyllus.

As a medical compilation, *P.Ant.* III 128 raises the question of tracing the corresponding literary sources, a question which can be clarified only to some extent in lack of reliable titles. The artefact is almost contemporary to Stobaeus' *Anthologium* (second half of the 5th cent. AD[68]), presumably slightly later, but identifying him as the direct source of fr. 1 is disputable, and whether both compilations are copied from the same text remains uncertain. So far the *Quellenforschung* for Stobaeus' work has not produced any complete results[69]. A collection of material derived from the non-written knowledge of the author himself is not tenable, and the inconsistencies and mistakes within the *Anthologium* have also led to the exclusion of any direct reference to the original works by authors from whom he was excerpting; also to be excluded is that it is an exact copy of previous compendia, as the comparison with anthologies surviving on papyrus confirms. Most likely, Stobaeus' compilation was put together by an experienced compiler for a

[67] Cf. Barns – Zilliacus, 1967, 60.

[68] For the dating of the *Anthologium*, a collection of extracts quoting more than five hundred Greek authors beginning with poets and then proceeding to historians, orators, philosophers and physicians, in a number of cases otherwise unknown, cf. Hense, *RE* IX 2549. For a general introduction, see Mansfield-Runia 1997, 196-271; Goulet 2000; Piccione 2002, 169-197.

[69] For the *Ursammlungen* as direct sources of the *Anthologium*, cf. Bernhardt 1861; Görler 1963.

didactic-exegetic purpose[70], and represented a philosophically oriented collection of various materials from the Greek tradition adapted to a new context and a different function[71].

As far as fr. 3 is concerned, it may be supposed that a copy of Oribasius' work was at the disposal of the anonymous compiler and that the papyrus text was basically drawn from it, even though slightly rephrased, similarly to what Paul did about one century later in the corresponding chapter of his *Epitome medica*. Otherwise, one might presume that the papyrus' scribe copied from a different source, and that where Oribasius' and Paul's texts exactly overlap, as in the papyrus, medical authors literally reported Antyllus' speech.

This codex also attests to one of the ways in which the medical culture of Antinoopolis was enriched during this period. It is known that, in late Antiquity, multiple copies of medical works by a wide range of physicians circulated and were available for study and commentary in Alexandria along with Galenic and Hippocratic writings. Practitioners who gained experience there, such as Aetius, had the opportunity to consult those copies and often exported the textbooks considered to be fundamental for the medical training both in theory and practice when they emigrated to other places in the Roman Empire, including Egypt[72]. Both original works and medical compendia probably circulated in Antinoopolis, too, and, according to papyrological evidence, it is conceivable that a substantial collection of books and a functioning medical library existed in such a peripheral area of the sixth-century Egypt.

[70] The purpose of the *Anthologium*, intended as a study tool for Stobaeus' son, was explained in its preface, whose content is partially preserved by Photius, *Bibliotheca* IV 149, 16-24, cf. Odorico 2011, 89-107.

[71] Far from merely belonging to the repertoire of the gnomic literature, the *Anthologium* also contained a number of *excerpta* from technical texts in prose, which were rearranged and refunctionalised for a specific cultural environment, cf. Piccione 1994, 281-317; 2003, 241-259.

[72] Scarborough 2010, 235-260.

Fr. 1

(a) ↔

Ἀντύλλου Stob., *Anthol.* IV 37.16.13-15

αν {δὲ} μᾶλλον καὶ εὐκι[νησίαν]
ἥπερ ὁ ψυχρός παρασκε[υάζει]
τοῖς ὑγιαίνουσιν, ἐν [δὲ ταῖς νό-]
5 σοις ῥαδίως εξελέγχε[ι τὴν]
δύναμιν. καὶ γεύροις μ[ὲν καὶ]
[θώ]ρα[κι] ἀ[γαθός

---

4 ὑγιαίνουσιν Witt, τιτ̣αινουσιν ? Barns **5** ῥαδείως pap.

(b) ↕

] ἐγχλουμένοις *sim.* Orib., *Coll. med.* IX 13.1
οἱ ὑ]περῷοι διὰ τὸ μᾶλλον
] ν κραδαίνεσθαι τῆς
]. υ αἵματος ἀναγωγῆς
5]. ων η ὅσους ἂν καὶ τα
]. γη . τα̣πο

---

1 At the beginning: traces only of the lower parts of letters Barns **3** First letter: ε or ο; ω or o Barns **4** First letter: perhaps o

Fr. 2

(a) ↔

[ ]μα [
[. . . . .]ε̣ξ̣ο . . ν. . . . [
[. . θ]ρ̣ίδακος φύλ[λ

[. . . .]. εντα̣κα̣. [

5 [. . . . .]τ̣[ ]κ̣αυμ . [

[ ]δε κ̣αὶ επιδ ε̣ α [

[. . .]τας διαπύρους φ [

[. . .] τῆς δὲ μελαίνη̣[ς

[. . . .]ας τὰ̣ π̣υρίκα . [

10 [. . . .]λφα̣ τοῖς καιρ̣[ο̣ῦ

κα̣τ̣ . ο̣νς̣ητ . κ̣αι. [

χο. [.]ν̣α̣π̣ρε . [ ]με . . [

εις τ σιν ἐφθὰ δὲ τὰ φ[ύλ-]

λα ἐν κ̣ρ̣άματι λεῖα ε̣. [

15 ἐν κεφα̣λῇ [. . π]ε̣πλα̣[ς-]

μένα θεραπε[υ

δεω [.]λεια [

πλασς[. .]. [

---

2 After ο: τ or υ? Next: ϱ? Next: ι? Barns Next letter but one could be κ; next, α Barns **4** First letter: possibly θ; last: perhaps ι Barns **5** After μ: α? Next: ε, θ, ο, or c Barns **6** Near end, before ε: τ? Last letter: ε, θ, ο, or c Barns **11** After ς̣ητ: α? Barns **13** After εις: possibly α, but more like o Barns **14** Last two letters: perhaps πι Barns

(b) ↕

]ν [

]. κ̣ο̣ . . μ̣ . ο̣ [

]. μενοις καὶ [

]. εκα̣ σου . [

5]. . . [[αο]] . [

]ο̣ ο̣ν̣τ̣αι χρησίμω[ς

]. . ν . στε περὶ στομ[ά-

] κοιλίαις ῥευματικαῖ[c

]ερωc δὲ τω . . ρο [

]ν ἐνοχλουντ[

] . ρα οc καὶ ὁ ἀνὰ α[. .]αν

]κ αc[. . .] . φακ . . [.] πο

] . . ιδοc μάλιστα δὲ ἀλόης

ἀ]ψινθίου προcλαβόντεc

] . υciμ[. . .]ερον β[ο]ηθου

] . [. . .]ειcειηδ[.] . πο

]επιβο . . . . των

]εατ[. . .] κηρω

] . . . [

---

3 Last letter: λ or ν? Barns **4** First letter: π or τ; after κα: perhaps υ; after cου: α or μ Barns **5** First letter: γ or τ; next: perhaps ο or ω At least three letters have been cancelled by striking through and dots above: αο . ; last of these is ε, θ, or ο Barns **7** Line begins: ο or ι Barns **9** After τω: α or c; then π or τ; last letter: perhaps c Barns **11** First letter: γ, π, or τ; fourth: perhaps γ Barns **12** Second letter: ι or τ? Barns **15** First letter: perhaps ϱ Barns

Fr. 3

(a) ↔

Orib., *Syn. ad Eust.* II 60.13.2-14.2;
Paul, *Epit. med.* VII 24.11.34-37

(i)

---------- [ἐμβάλλε-]

[ται] τῇ χύτ[ρᾳ, ἀλλὰ cὺν ὄξει]

[λει]οτριβη[θέντοc αὐτοῦ]

[κα]ὶ μέν[οντοc ἐν θυίᾳ κα-] [τε]ρᾶτα[ι

τ]ὰ ἄ[λλα, ἐν δὲ ταῖc μη-]

[λί]ναις ἡμ[ιέφθου οὔcηc τῆc]

[cκευαc]ίας [οὔcηc ἐμβάλλεται·]

[μετρίας γ]ᾳ[ϱ τυχὼν ἐψήcεωc]

---

2 συν]γτριβη[Barns **3**]. μέν[Barns **4**]. . τα . α [Barns **5**]. αιcημ[Barns **7**]. ac[Barns **8**] . [Barns

(ii) *sim.* Orib., *Syn. ad Eust.* II 60.13.1f.; Paul, *Epit. med.* VII 24.11.34f.

] [

]λαμ[

]ται ἐμβάλ[λεται μετὰ τὴν ἔψηcιν

εἰc] τὰc χλωρ̣[ὰc ἐμπλάcτρουc, ἐφ'

5 ὧν δὲ] ο̣[ὐδὲ] τὴ[ν ἀρχὴν

3]ται εν βαλ[Barns; ενβαλ[pap. **4**]τὰc χλωρ̣[Barns **5**]. [. . .]τ [Barns

(b) ↕

(i)

]κ . . . . [

]οι και μ̣[

]αι̣cτυ [

]ε εν βλ[

5] ε̣πι̣τελ[

]ωc ϊ [

] . ε̣ [

(ii)

] . [

]π̣οτε . [

]

]oc

5]

(b) (i) **6** Last letter: δ or λ Barns **7** Last letter: β, ο, ϱ, or c? Barns

Fr. 4

(a) ↔

]̣.

]ϱυ

]ν̣

]c

(b) ↕

ζ̣ε[

ϰλ[

cω[

(a) **3**]̣. Barns

Fr. 5

(a) ↔

]ο̣.[

]εντ̣[

]ολιγ̣[

(b) ↕

]α̣ [

]χ̣αιη̣[

]αcυ̣ϱ̣[

Fr. 6

(a) ↔

]ματι̣ [

]cαφε[

]ιcη̣ [

]μματ[

(b) ↕

]. .αν[

]. τεω[

]ε̣ωcα̣[

]. υ̣τω[

5]ωτε[

(a) **3** Last letter: π? Barns
(b) **1** First letter: ι or ν? Next: π or ιτ? Barns **4** First letter: α or ο? Barns

Fr. 7

(a) ↔

]. .οα [
]εται̣[
]ω̣το̣ [
]ε̣ιcπ[

(a) **1** First letter: π or τ Barns

(b) ↕

]γοτο[
]χοιc . [

Translation

Fr. 1

(a)

By Antyllus. ... the cold (air) rather provides ease of movement to those in good health, on the other hand it easily puts to the test the bodily strength in sickness. It is good for the nerves and the chest...

(b)

for those unwell ... the upper (floors) [are convenient ?] because of more ... agitated ... of blood discharge ... as much as ...

Fr. 2

(a)

… lettuce leaves … inflamed … of dark … burnt … boiled leaves in the smooth mixture … in the head … plaster treat(ing) … apply…

(b)

... useful ... for the stomach ... intestines affected by diarrhoea ... being unwell ... of juice of unripe grapes (?) ... of madwort especially of aloe ... of wormwood adding ... of hedge mustard (?) ... remedy ... fat (?) salve (?)

Fr. 3

(a)

(i) [Iron rust]... is put (on them) into the pot, but crushed in vinegar and letting it stand in the cup, the other ingredients are poured over it, and when the preparation is half-boiled it is put into greenish-yellow (plasters); …

(ii) ... it is put after boiling into pale-green plasters, not at the beginning …

Commentary

Fr. 1

Fr. 1 preserves 7 lines of a single column broken up on all sides except for the left margin. The upper side is evidently damaged, and still contains in the middle of the column a brief title corresponding to the name of the medical writer Antyllus. The examination of the artefact reveals a blank space suitable for a further letter before -λου, possibly due to damaged surface of the papyrus; different readings and spelling mistakes like Αντυλμου or Αντυλλλου should be excluded, cf. Witt 2015, 58 n. 11.

Antyllus' excerpts quoted by Stobaeus (*Anthol.* IV 37.15-18) have been collected in a chapter about different characteristics of air depending on the times of day (Περὶ τῆς καθ' ἡμέραν διαφορᾶς τῶν ἀέρων), seasons of the year (Περὶ τῆς ἐν ἑκάστῃ τῶν ἐτησίων ὡρῶν διαφορᾶς), places (Περὶ τόπων καὶ τῶν ἐν αὐτοῖς ἀέρων), and months (Περὶ τῆς κατὰ μῆνα τῶν ἀέρων διαφορᾶς) in relation to various diseases. The present text is excerpted from the fifth section entitled περὶ τῶν ἐν τῷ ἀέρι

διαφορῶν, which contains more generic indications on how external temperature affects a large number of the processes that occur in the human body.

Stobaeus' chapter largely corresponds to Oribasius' *Collectiones medicae* IX, containing quotations from Antyllus related to the effects of monthly (περὶ τῆc κατὰ μῆνα τῶν ἀέρων διαφορᾶc, IX 3.1), and daily (Περὶ τῆc καθ' ἡμέραν διαφορᾶc τῶν ἀέρων, IX 4.1) climate changes, as well as to climatic conditions in different places (περὶ τόπων· ἐκ τοῦ <α> λόγου τοῦ Περὶ βοηθημάτων, IX 11.1). Although most sections bear close similarities to Stobaeus' text in their heading and topic, they particularly differ in the arrangement of material. Oribasius' chapter is generally shorter as regards the length of single sections (cf. IX 11.1), and at times they are entirely lacking (cf. Stob. IV 37.16); they are also less homogeneous as regards the criterion for the selection of passages, since Antyllus' excerpts are combined with related passages by other physicians, such as Galen or Athenaeus. No parallels can be found between the papyrus text and Oribasius. Antyllus' passage περὶ τῶν ἐν τῷ ἀέρι διαφορῶν preserved *ap.* Stobaeus seems to have been replaced by a quotation Ἐκ τῶν Ἀθηναίου· περὶ ἀέροc· ἐκ τοῦ <κθ> λόγου in Oribasius, which discusses differences in air according to mixtures of qualities and their implications for health, cf. Orib. *Coll. med.* IX 5: in particular, the warmer and finer air causes bodies to be well-ventilated [εὐδιάπνευcτα], while cold and dense air causes the opposite. On related discussion in Athenaeus, cf. also *Coll. med.* IX 12; Aet. III 162, 19-35.

Likewise, according to Antyllus, hot and cold air produce opposite effects, as the former normally debilitates the human body, whereas the latter increases elasticity and mobility under healthy conditions but is not convenient for sick people. Apparently, only the second part of the statement about cold air has been copied in the papyrus. In fact, Stobaeus has: ὁ δὲ θερμὸc ἀὴρ cωμάτων δαπανητικόc, ἰcχναίνων καὶ καταρινῶν τὰ cυγκρίματα, εὐτονίαν <δὲ> μᾶλλον καὶ εὐκινηcίαν ἥπερ ὁ ψυχρὸc παρακευάζει τοῖc ὑγιαίνουcιν[73], "Hot air strains the bodies as it

[73] The particle δὲ in *Anthol.* IV 37.16.13 (line 2 in the papyrus) has been expunged in the modern Wachsmuth – Hense's edition: "δὲ tacite inseruit Gesn.[1], om. S Tr. (Codex Vindobonensis Sambuci 'Florilegii', 11th AD)".

debilitates and weakens the system; cold (air), instead, provides vigour and ease of movement to those who are healthy".

(b)

A few resemblances can be observed between the text on the back and a passage quoted by Oribasius, *Coll. med.* IX 13.1, Τοῖc μὲν ὀξέωc νοcοῦcιν οἱ κατάγειοι τῶν οἴκων ἐπιτήδειοι, καὶ μάλιcτα καυcουμένοις τε καὶ cυγκοπτομένοιc· καὶ γὰρ εὐψυχέcτεροι τῶν ὑπερῴων καὶ cυνέχουcι τὴν δύναμιν· ἐπιτήδειοι δὲ καὶ τοῖc αἷμα ἀνάγουcι καὶ τοῖc ὑπὸ κεφαλαίαc ἐνοχλουμένοιc· οἱ δ' ὑπερῷοι τοῖc ἐν θώρακι φλέγμα cυνειλεγμένον ἔχουcιν, containing a chapter Περὶ οἴκου· ἐκ τῶν Ἀντύλλου· ἐκ τοῦ <α> λόγου τοῦ Περὶ βοηθημάτων, and partially also with Orib. IX 14 Περὶ cτρωμνῆc, ascribed to the same author. Although there is no literal correspondence, and a different source should be assumed for this text, the attribution to Antyllus is remarkable, and its content may be related with the general topic of fr. 1 *(a)*. From this comparison it seems likely that the passage in the papyrus concerned a description of the most convenient accommodation (*e.g.* the position and size of the house) for those suffering from different kinds of diseases, such as blood discharge, or maybe the correct positions to be adopted by patients on couches and beds. Regrettably, further progress on this matter is impeded by the scantiness of the remains.

2 ὑ]περῷοι: according to Antyllus, the upper floors are recommended for those having an accumulation of phlegm in the chest, whereas the ground floor is recommended for those suffering from blood discharge and headache.

3 κραδαίνεcθαι: "to be agitated, shiver"; this verb is used in two passages by Antyllus cited *ap.* Oribasius, namely VIII 6.24 in relation to the hiccough (cf. Kudlien *ap.* Barns – Zilliacus 1967, 60), and IX 14.4, referring to the deterred use of small beds for agitated patients.

4 αἵματοc ἀναγωγῆc: a similar syntagm is attested in an excerpt by Antyllus about baths and stomach diseases, cf. Orib. X 3.3.4.

Fr. 2

Fr. 2 is pharmacological in content. Divisions or paragraph marks do not survive, nor do details about the dosages of ingredients (with one exception, cf. fr. 2, l. 13 *(a)*); as a result, the material seems to be arranged in a quite uniform discourse rather than a concise list of ingredients and practical instructions.

(a)

On the front, the fragment seems to contain therapeutic prescriptions for a mixture against inflammation (ll. 7 διαπύρους; 9 τὰ πυρίκαυτ[α Marganne 1981, 100) of the head (l. 15 ἐν κεφαλῇ) made with leaves (ll. 13f. τὰ φ[ύλ]λα) which is to be applied as a smooth plaster (ll. 14 κρ̣άματι λεῖα, 15f. καταπ]έ̣πλα̣[c]μενα Marganne 1981, 100). There are apparently no transitions between recipes preserved in this papyrus, therefore we cannot see how these would have been handled in terms of format. However, the papyrus seems to bear the hallmarks of an ordinary literary prose text, rather than incorporating the common methods of articulation of other pharmacological manuals.

3 θ]ρ̣ίδακοc φύλ[λ: "lettuce" (*Lactuca sativa*) was recommended for its lenitive properties against erysipelas and any kind of inflammation, particularly when applied with cold water, cf. Gal., *De simpl. med. temp. ac fac.*, XI 887.5. Lettuce leaves, mashed to form a plaster, were used against headache in Orib. *Coll. Med.*, IX 46; lettuce juice was also effective in treating heartburn, cf. Ps.-Gal., *De remed. parab.* XIV 521,7; its seeds could be taken with water against spermatorrhoea, cf. Alex. Trall., *Therap.* II 497,16.

13 ἐφθά δὲ τὰ φ[ύλ]λα: "boiled leaves"; a mixture of equal amounts of olive-tree leaves and honey is to be used against scabby and serous skin on the head *ap.* Alex. Trall., *Therap.* I 461.9-11, and Paul, *Epit. med.* III 3.2.8f.

(b)

On the back, a recipe against flux in the stomach has been preserved. Presented as a useful remedy (l. 6 χρηcίμω[), the drug is made of the juice of unripe olives (l. 12 ὀ]μφακίου), madwort (l. 13 μυο]cωτίδοc), Aloe vera (l. ἀλόηc), wormwood (l. 14

ἀ]ψινθίου), hedge-mustard (l. 15 ἐ]ρυσίμ[ου), and possibly fat and cerate (l. 15 cτ]έατ[ι . .] κηρω[τή Marganne 1981, 100).

14 ἀ]ψινθίου: *Artemisia absinthium*, an aromatic plant characterized by a strong bitter taste externally used as an emollient, cf. Dsc. III 23. It has been famous since ancient times and occurs in the *Ebers Papyrus*; used correctly, an infusion of wormwood may increase biliary secretion and act as a stimulant for appetite and aid in digestion. In combination with ἀλόη, occurring in this fragment in l. 13, it was used for purging the stomach of bilious juices, especially in treating headache (see l. 15), cf. Gal., *De san. tuenda* VI 426.6; *De comp. med. sec. loc.* XII 558.13ff.

15] . υσιμ[. . : According to Barns, a possible supplement is ἐ]ρυσίμ[υ, "hedge-mustard" (*Sisymbrium polyceratium*), a plant effective against pulmonary disorders, especially recommended for the expectoration of thick juices, against tumors of the paroid gland and indurations in the breast; it was used in tablet form, but it could be also mixed with water or honey and applied as a plaster, or in a bandage with a linen cloth, cf. Gal., *De simpl. med. temp. ac fac.* XI 877; Dsc. II, 158. Like the sesame plant, ἐρύσιμον also had digestive properties, cf. Gal., *De alim. fac.* VI 547.10-548.8.

18]εατ[: Possibly cτ]έατ[ι "animal fat", cf. Barns 1967, 60; generally employed as an emollient in smooth plasters, it might indicate a preparation medically used for external application, in agreement with the restoration of] κηρω[in the same line: κηρωτή/κήρωμα "ointment, cerate".

Fr. 3

Fr. 3 *(a)* (i) contains the damaged remains of seven lines. No margins survive and the surface of papyrus has worn away in a few places, especially lines 4-5. Restoration is apparent in a line length of 19-24 letters. In the transcription, line division of fr. 3 is suggested *exempli gratia.* It overlaps Orib., *Syn. ad Eust.* II 60.13.1-14.2, a chapter containing instructions on the addition of various substances to boiling mixtures during the preparation of pharmacological drugs. Reported in a rather brief way, each prescription primarily contains information on the proper time when a component is

to be put in the mixture (at the beginning, in between, or at the the end), and further details on the chromatic properties of the plasters are provided in most cases.

Specifically, the excerpt in the papyrus refers to the addition of iron rust: ἰὸc εἰc τὰc χλωρὰc ἐμπλάστρουc ἐμβάλλεται μετὰ τὴν ἔψηcιν, ἐφ' ὧν δὲ οὐδὲ τὴν ἀρχὴν ἐμβάλλεται τῇ χύτρᾳ, ἀλλὰ cὺν ὄξει λειοτριβηθέντοc αὐτοῦ καὶ μένοντοc ἐν θυίᾳ κατερᾶται τὰ ἄλλα, ἐν δὲ ταῖc μηλίναιc ἡμιέφθου οὔcηc τῆc cκευαcίαc ἐμβάλλεται· μετρίας γὰρ τυχὼν ἐψήcεως μηλίνην ποιεῖ τὴν χροιάν· ἐπὶ δὲ τῶν διπροσώπων μετὰ τὰc ἀρχὰc εὐθὺc ἐνέψομεν τὸν ἰόν· ὑπερτεινόμενοc γὰρ κατὰ τὴν ἔψηcιν πρῶτον μὲν μήλινον ἐπάγει, διπρόcωπον δὲ γινόμενον τελευταῖον κιρρὸν ἀπεργάζεται τὸ χρῶμα. The same chapter is also reported, with few variant readings of little interest, by Paul, *Epit. med.* VII 24.11.34-37 (7th cent. AD), whose material is presumably drawn nearly verbatim from Oribasius' work.

According to Barns, fr. 3 was ripped into two parts. The smaller scrap (fr. 3 *(a)* (ii)), although not exactly overlapping, might be restored according to Orib., *Syn. ad Eust.* II 60.13.1f. = Paul, *Epit. med.* VII 24.11.34f., i.e. the lines immediately preceding Antyllus' passage quoted in fr. 3 (i):

] [	
]λαμ[	εἰc τὰc χλωρὰc ἐμπλάστρουc
]ṭαι εν βαλ[	ἐμβάλλεται μετὰ τὴν ἔψηcιν, ἐφ'
]. ac χλωρ̣[	ὧν δὲ οὐδὲ τὴν ἀρχὴν ἐμβάλλεται
]. [. . .]τ. [	

In lines 3 and 4 the papyrus text is quite close to Oribasius' and Paul's quotation, and only a slight rephrasing has to be assumed. A full restoration is not possible in line 1 and 2 according to this parallel; a different content is supposed to be contained in the preceding section of the papyrus text.

If frr. 3 (i) and (ii) were originally put in this order, it should be assumed that the discourse περὶ ἐψήcεωc τῶν ἐμβαλλομένων εἰc τὰc ἐμπλάστρουc φαρμάκων was

differently arranged in the papyrus. Provided that the chapter quoted by Oribasius and Paul consists of a list of substances and therefore is particularly prone to alterations, one might suppose that the papyrus preserved an extensive text enriched with material from different sources.

2. λειο]ο̣τ̣ρ̣ιβη[θέντος: The text has been restored by the first editor as cυ]ν̣τ̣ρ̣ιβη[, and this supplement is supported by Marganne, who suggests the participle cυ]ν̣τ̣ρ̣ιβη[θέντα[74]. What remains of the first letter after the lacuna consists in a vertical stroke not perfectly straight that might resemble the very left part of a rounded letter slightly flatter than usual. However, it cannot be excluded that the papyrus diverges from Oribasius' text and the anonymous scribe copied from a different source.

4 χλωρ̣[: The yellowish colour is quoted only once in the whole chapter. According to Galen, χλωραί plasters are so named because of the colour imparted by iron rust (*verdigris*), the green-pigment obtained from the oxidation of copper when exposed to air, commonly used in medicine for its cleansing and cicatrizing properties, cf. Gal., *De comp. med. per gen.* XIII 503.

Frr. 4, 5, 6, 7

Regrettably, it is very difficult to identify what survives of the last four fragments, whose extent is not sufficient to securely determine their content. Only fr. 4 contains on side *(b)* traces of a *paragraphos*, maybe suggesting a pharmacological content. One possibility is that this small scrap of papyrus, which preserves the remains of the respectively left and right margin on both sides, originally belonged to the same section of fr. 2.

[74] Marganne 1981, 101.

2.3 *P.Ant.* III 126

P.Ant. III 126 (*a*) ↔, (*b*) ↕ 18.3 × 11.5 cm 6th-7th AD
(Oxford, Sackler Library,
Papyrology Rooms P.Ant. 126)

MP³ 2362.3; *LDAB* 6475 Antinoopolis

The practical use of medical books in Antinoopolis is attested by this papyrus codex whose content resulted from the combination of traditional sources and new material possibly taken from – or re-arranged according to – daily professional experience.

P.Ant. III **126**[75] is written in a sloping quite experienced book hand, and preserves the remains of a medical compendium about the surgical and pharmacological treatment of tonsillitis[76]. The regular script, the layout in a single column with wide margins (the lower one, almost entirely preserved, measures about 5 cm), the text – both left and right aligned – suggest that the papyrus was a valuable codex of considerable dimension. The addition of breathings by the original hand in line 5 and 4, not indicated in the *editio princeps*, confirms the good quality of the manuscript. Four and three lines are contained in the bottom margin, respectively on side *(a)* and *(b)*, preserving a few remedies intended to be drunk or applied as a plaster[77]. They were possibly added by the same scribe in a documentary cursive handwriting using small letters, and are accurately aligned along the left and right margins according to the main text.

This fragment has been regarded as being part of a medical encyclopaedia from late Antiquity possibly preserving, as Kudlien supposed[78], Oribasius' lost chapter περὶ ἀντιάδων. However, a close examination of the text seems to suggest that the

[75] Barns – Zilliacus, 1967, 52-54; http://litpap.info/dclp/65233.

[76] For other occurrences of tonsillitis in papyri, cf. *PSI* XV 1510 (3rd AD; MP³ 2364.01, *LDAB* 5239), a medical catechism dating from the 3rd cent. AD, also containing a definition of παρίσθμια ("Where are the tonsils (paristhmia) situated? On both two [sides of the tongue and] one in front of the other [... For this reason they are also called] antiades […]"); and two letters, i.e. *O.Claud*. II 222 (2nd AD) and *P.Oxy*. XLII 3068 (3rd AD), see Andorlini 1997, 73-79.

[77] Cf. McNamee 2007, 463f.

[78] Barns – Zilliacus 1967, 52f.

papyrus is an abridgment of earlier material whose subject has been organised in a different way, according to a cross-reference system which does not precisely correspond to the one in Oribasius.

The body of the text is arranged in three sections on the front and two on the back, separated by short headings set at mid-line, introduced by a *paragraphos* followed by a blank space (l. 9 *(a)*) or simply the blank space of one line (l. 2 *(b)*). The absence of ink traces in lines 3-4 *(a)* possibly suggests the presence of a brief title. The *paragraphos* is also used once in the marginal texts without any indentation (l. 13 *(b)*); sinusoid occurs for the abbreviation of καὶ in line 9 *(b)*.

On side *(a)*, the scanty remains of lines 5-8 do not enable us to infer the content of the first section, and it is not possible to state if it also concerned tonsils. The heading of the subsequent section χειρουργία ἀντ[ι]άδων (l. 9) including the specific mention of tonsils may suggest that a new topic was discussed at this point, and that the previous passage contained different information, maybe pharmacological, or even regarding a different surgical treatment related to sore throat.

As far as can be deciphered and despite the title of the chapter, surgery is not the subject of the surviving text on the *recto*; rather, it prescribes medical treatments, and the conflicting content between the heading and the related chapter has been regarded as puzzling by the first editor[79]. The text, in fact, says:

> Surgery of the tonsils. If the tonsils are inflamed, take the above-mentioned remedies suitable for inflammation of tonsils, gargles and …

Though an error by the scribe may have occurred at this point, especially if one supposes we are dealing with a heterogeneous compilation made by juxtaposing excerpts from similar sources[80], it is possible to overlook this apparent incongruity and accept the good version of the papyrus by considering the surviving lines as part of an introduction, possibly connected to the previous chapters and presenting

[79] Barns – Zilliacus 1967, 52.

[80] This is, for instance, the case of *P.Leyden* X (3rd-4th AD; MP^3 1997, *LDAB* 2442) and *P.Holm.* (3rd-4th AD; MP^3 1988, *LDAB* 4682), containing alchemical recipes, cf. Halleux 1981, 15f.: "Lagercrantz a démontré que les titres ont été refaits d'après les premiers mots du texte et que dans certains cas, ils ne conviennent pas au contenu".

surgical treatments as the last resort for the physician when pharmacology has failed. Several early Byzantine medical manuscripts are characterized by a lack of surgical procedures, and the evidence of these texts is that drugs were the principal means of treatment[81]. The persistence of pharmacological references in a section dedicated to surgery might be regarded as the reflection of this medical perspective typical of late Antiquity.

The back side, which is specifically concerned with pharmacological treatment (l. 2 *(b)* βοηθή[ματα), contains further indications of the possible evolution of the disease: "if it is not alleviated by them (i.e. remedies), it evolves into an abscess", indirectly referring to the need for surgical procedures as can be read in Aetius, 48.65ff. εἰ δὲ ἡ ῥῆξις χρονίζοι διὰ στερεότητα τῶν ἐπικειμένων σωμάτων, ἐπωδύνου τῆς φλεγμονῆς οὔσης, διελεῖν χρὴ τὸ ἀπόστημα πρὸς τὴν τοῦ πύου ἔκκρισιν. ἐπὶ μὲν οὖν τῶν τελείων καθέδριον δεῖ σχηματίζειν τὸν πάσχοντα, ἔπειτα διαστεῖλαι τὸ στόμα καὶ τὴν γλῶτταν σπαθομήλῃ καταστεῖλαι ἢ γλωσσοκατόχῳ καὶ τότε διελεῖν τὸ ἀπόστημα σμιλαρίῳ ἢ κατιάδι. Even though the fragmentary condition of the papyrus does not make it possible to state whether only a brief reference or more detailed information on medical material not strictly related to the headings was contained on both sides, the entire text appears to be arranged into a systematic discourse in which single treatments, as well as single passages, have been put in relation to each other as sequential steps in medical therapy.

Tonsils are not mentioned in the surviving text on the *verso*, but they might be identified as the topic of the chapter on the basis of a comparison with a few parallels in medical literature. The body of the text on the back preserves a number of remedies identified by their main ingredient or a commonly accepted denomination (i.e. ἡ Αἰγυπτία); the record of multiple prescriptions for a single ailment points to an accumulation of experience recorded in a craft text.

[81] No doubt orthopaedic operations kept being carried out and lists of surgical instruments survived in later texts (*e.g. Ms. lat.* 11219, Paris, Bibliothèque Nationale, and *Ms. Laur. Plut.* 74.2, Firenze, Biblioteca Medicea Laurenziana), but surgery was limited to minimally invasive procedures, and avoided every time a different kind of cure offered hope, cf. Bennet 2000, 286f.

It is noteworthy that the main text, strictly speaking, does not contain any medical recipes but only a list of ointments probably serving as a quick reminder of the most effective remedies for those already familiar with their preparation[82]. By contrast, detailed prescriptions are contained in the margins, supplemented with precise indications on the administration of the remedies ("pour warm water and make smooth with…" ll. 13f. *(a)*; "apply as a plaster…" l. 14 *(a)*; "apply often …" l. 11 *(b)*; "for three times…" l. 13 *(b)*; "making smooth with … drink" l. 14 *(b)*). It is likely that these alterative recipes were gained from different copies or from personal experience, as suggested by the fact that no title or common denomination has been indicated.

For its formal characteristics, this manuscript can be compared with *P.Mich.* XVII 758 (MP^3 2407.01, *LDAB* 430), a papyrus codex dating from the 4th cent. AD and surviving in 13 folios, which preserves a collection of recipes for plasters to be applied to wounds[83]. Containing twenty additional prescriptions in the wide margins at the bottom of each page and reminiscent of collections of medical writers in Antiquity, this codex was probably a private commission copied by a professional scribe for the physician-owner, who presumably intended to compare it with the copy already in his possession and to add his own comments and further treatments from other collections which he had at his disposal[84]. Although this handbook preserves a copy of the best known medicaments in ancient times, the text adaptations do not lead to an ossification of the content or a mere reliance on tradition. The fact that the physician-owner added further recipes and observations in his own hand to the margins of the main page implies that the medical codex was something regularly consulted and even updated by its owner in the course of his professional life.

In both papyri the marginal annotations should be intended as an enhancement of the main text, each remaining distinct; however, while in the Michigan Medical Codex the numerous abbreviations contained in the lower margins form a cross-reference

[82] Considering that during late Antiquity medical recipes could be included in compendia either at the beginning and the end of a chapter or in separate sections without a regular criterion, it may not be excluded, however, that more specific prescriptions were also contained in the main text of the codex.

[83] Youtie 1986, 123-149.

[84] Cf. Marganne 1994, 133-146; Nutton 2013, 12.

system of medical recipes and their alternative versions, in *P.Ant.* III 126 such an exact correspondence between 'primary' and 'secondary' text does not appear to be established.

Whether *P.Ant.* III 126 originally also contained descriptions of diseases and other background information cannot be determined. As it has been preserved, this papyrus is a practical handbook that provides systematic information to treat patients. One should keep in mind that much of this fragmentary text has been lost and be careful not to infer too much from the available data; nevertheless, what has survived is significant and leads us to a few considerations.

P.Ant. III 126 represents an example of a Byzantine medical encyclopaedia from late Antiquity comparable to those by Oribasius, Aetius or Paul of Aegina and not preserved by the manuscript tradition. It testifies to the re-use of earlier sources selected and re-arranged by adopting original criteria on the basis of personal expertise. The annotations formulated in what looks like a first-hand account show how new pieces of knowledge were assembled in the tradition of technical books, to be added in subsequent copies as 'secondary' texts or to gradually become an integral part of the main text.

This papyrus contains no direct statement on the context in which it was used or commissioned; thus, all provisional conclusions in this regard are based on indirect information deduced from characteristics of the manuscript. The marginal additions in which medical preparations are described in detail and the short mention of treatments reported as a memory aid seem to suggest that we are dealing with a skilled physician or a user who personally experimented medical practice. It may not be excluded that *P.Ant.* III 126, enhanced in this way, was a handbook also suitable for practicing doctors not yet completely medically trained.

(a)

[ ]ι τ[

[ ]

[ ]

[ ]

[μ]ᾶλλον τοῦ κ [

[ ]εουσων αυτ[

[ ]μειατα ε[

[ε]ἰρημένα[ ]

[ ] ——χειρουργία ἀντ[ι]άδων

[εἰ] μὲν ἐν φλεγμονῇ εἴηcαν αἱ ἀντιάδες βοηθήμα-

[τ]α παραλαμβανέcθω τ[ὰ πε]ρὶ τῶν ἐν φλεγμονῇ π[α]ρ-

ιcθμίων εἰρημένα κ[αὶ τὰ] ἀναγαργαρ[ί]cματα καὶ

[ἀ]ζύμου ε. [. . .]λων τοῦ ξηρίου [. . . . . .ἐ]πίχεε θερμὸν

[ὕ]δωρ καὶ λει[ότριβε] καλῶc μετά [. . . . . ἐ]λαίου κατάπλαccε

[. . . .] ἄρτου [.. .. .] .ουcπε . .[ἐμπλ]άccων τὸ κατά-

[πλαcμα]

10 ε̣ιηcαν Kudlien *ap*. Barns **13** After [α]ζύμου ε: ν or π Barns **14** Last letter before lacuna: perhaps ε Barns **15** ουc: ν or η πλ]αccων Barns, πλ]άccων καταπλ]άccων ? Marganne

(b)

]. . [

[ ] *vacat* βοηθή[ματα

[ ] [

[κ]ατ’ ἀρχὰc ὑπ [

[. .]. ε̣ν̣εoc εἴη ὁ [

[. . .]ομια ἐν δε[διαχ-]

ρ̣ί̣cματα ε[φοι]

ν̣ί̣κ̣ω̣ν̣ κ(αὶ) τὰ μελι [. . . . .] .[.]ξ̣ ο̣ . . . . γλυκυ[ρ̣]-

ρ̣ίζης ἀφέψημα διάχρ̣ε̣ι̣c̣τ̣ο̣c̣ τ̣ε̣ ἡ διὰ μόρων κ̣[αὶ]

10 ἡ Αἰγυπτία δ̣ιὰ τούτων κατὰ τὸ πλεῖστον ἡ φλεγμο-

νὴ λύεται [ο]ἷ̣ς μὴ λυθε̣[ῖσα] εἰς ἀπόστημα τρέπετα[ι]

ἐπιτίθει πολλάκ[ις . . . . .]. . τον ὡς μάλ[ιστα . . .]ά̣μενος αὐτ̣[

ἀπὸ χαμαιμήλ̣[ων . . . . .]ε̣ι̣α̣ λαβὼν ψ . [. . . . .] ἐ̣πὶ τρία . . [

ειτα λειοτριβῆ̣ς μ̣ε̣[τὰ . . . . .]. π̣οθη[. . . . .]. . [

2 βοηθη[μα Barns **4** ὑπ pap.; last letter: ε? Barns **5** Before ε̣ν̣ε̣: γ or δ? ; ὁ pap.; last letter: γ, η, ι, κ, ν, π, or ρ Barns **7** ρ̣ίc̣ματα, διαχ]|ρ̣γαρίcματα perhaps rather than ἀναγα]|ρ̣γαρίcματα Barns **8** κs pap.; perhaps]ξιοις; next: perhaps το Barns **9** *l.* διάχριστος **12** Before τον: perhaps ου Barns

Translation

(a)

Surgery of the tonsils.

If the tonsils are inflamed, take the above-mentioned remedies suitable for inflammation of tonsils, and gargles and …

of unleavened … of desiccative powder… pour warm water and make smooth with… of oil, apply as a plaster… of bread… plaster (?)

(b)

Remedies […]

From the beginning … ointments… of date palm and those made of honey (?) … decoction of licorice root, and also an ointment (made) of mulberries and the Egyptian one, in most cases these (remedies) make the inflammation disappear, but if it is not alleviated by them, it evolves into an abscess.

Apply often… especially…

From chamomile… taking… three times… making smooth with…drink

Commentary

(a)

Though not identifiable *verbatim* with any other known passage, on both sides the papyrus text shows considerable similarities with medical excerpts from Oribasius,

Aetius and Paul of Aegina, maintaining a remarkable adherence to traditional knowledge. Also according to Kudlien, Galen is not the author of this text[85].

10-12 The main text on the *recto* resembles two passages respectively from Oribasius (also preserved by Paul of Aegina) and Aetius:

P.Ant. III 126 *(a)* 10-12	Orib. *Ecl. med.* 19.2.2f.; Paul, *Epit. med.* III 26.14	Aet. VIII 51.10f.
[εἰ] μὲν ἐν φλεγμονῇ εἴηcαν αἱ ἀντιάδεc βοηθήμα/[τ]ᾳ παραλαμβανέcθω τ[ὰ πε]ῳ̣ὶ τῶν ἐν φλεγμονῇ π̣[α]ῳ̣/ιcθμίωι̣ εἰρημένα κ[αὶ τὰ] ἀναγαργαρ[ί]ς̣ματα	Εἰ μὲν ἐν πυρετῷ φλεγμαίνοι παρίcθμια καὶ κιονίc, ἀναγαργαρίcματα ἁρμόζει δι’ἀφεψήματοc (…)	φλεγμονῆc μὲν παρούcηc τοῖc ἐπὶ τῶν παριcθμίων φλεγμαινόντων ἀναγαργαρίcμαcι καὶ διαχρίcμαcι χρηcτέον

The anonymous author seems to adopt Oribasius’ general stylistic rephrasing, even though παρίcθμια has been replaced in the papyrus with ἀντιάδεc. The definition of the term παρίcθμιον, used as an alternative to ἀντιὰc, is attested *ap*. Ps.-Gal., *Introduct.* XIV 713.9-11: λέγονται δὲ αὗται (i.e. αἱ ἀντιάδεc) καὶ παρίcθμια, διὰ τὸ ἐοικέναι τὸ χωρίον ἰcθμῷ εἰc ὃ παράκεινται, μάλιcτα δὲ ὅταν φλεγμαίνωcιν, where the symmetrical position of the tonsils around the pharinx (i.e. ἰcθμόc) is illustrated. In Antiquity, physicians basically regarded tonsils as swellings between the head and the neck; they used the same term with reference to both the organ itself and its affections (the ‘inflamed tonsils’), cf. Hipp., *Morb*. II 30 ἢν ἀντιάδεc γένωνται, cυνοιδέει ὑπὸ τὴν γνάθον ἔνθεν καὶ ἔνθεν; Gal., *De tumor. praeter nat*. VII 731.12-14 Καί cταφυλαὶ καὶ τὰ παρίcθμια καὶ αἱ ἀντιάδεc οὐκ ἄλλο τι ἢ φλεγμοναί εἰcιν. The correspondence between the terms παρίcθμιον/ἀδήν is also

[85] Cf. Barns – Zilliacus 1967, 53.

attested, cf. Hipp., *Gland*. VIII 21-22 τράχηλος τὰ μέρεα αὐτοῦ ἑκάτερα ἔνθα καὶ ἔνθα ἀδέναc ἔχει, καὶ παρίcθμια καλέονται αἱ ἀδένες αὗται[86].

Concerning the content, we observe that *P.Ant*. III 126 *(a)* and Aetius differ from Oribasius and Paul. In particular, both the papyrus text and Aetius refer to a category of remedies specifically prescribed for the inflammation of the tonsils (βοηθήμα/[τ]α (...) τ[ὰ πε]ρὶ τῶν ἐν φλεγμονῇ π[α]ρ/ιcθμίων εἰρημένα ll. 10-12; τοῖc ἐπὶ τῶν παριcθμίων φλεγμαινόντων ἀναγαργαρίcμαcι Aet. VIII 51.10ff.); Oribasius, on the other hand, recommends ἀναγαργαρίcματα treating the inflammation of tonsils in combination with fever (ἐν πυρετῷ), and the inflammation of the uvula (κιονίc). The mention of fever and uvula has been omitted by Aetius and does not occur in the papyrus. Aetius' passage belongs to a more general chapter περὶ ἀντιάδων containing rather systematic information, including a brief description of tonsils, the prescription of gargles and ointments for tonsillitis, and a list of detailed recipes for the treatment of tonsils free from inflammation. The last section, introduced by the heading χειρουργία, is devoted to surgical procedures to be adopted when pharmacological treatment is ineffective (VIII 51.23 νικωμένων δὲ τῶν φαρμάκων ἐκτέμνεcθαι χρὴ τὰc ἀντιάδαc).

On the other hand, the corresponding section in Oribasius appears less systematic and strictly focused on pharmacological remedies. In the subsequent lines, he lists the names of a few decoctions suitable for the treatment of tonsillitis; proper recipes specifying ingredients and dosages are only separately provided at the very beginning of the chapter. i.e. a remedy for inflamed tonsils made with black mulberry (Orib., *Ecl. med.* 19.1.1 πρὸc παριcθμίων φλεγμονὴν ἡ διὰ μόρων), in a short section πρὸc ἀντιάδαc, which also contains generic prescriptions for mouth diseases, and a chapter περὶ τῶν cτοματικῶν φαρμάκων τῶν φλεγμαινόντων παριcθμίων ἢ cταφυλῆc <ἤ> τινοc ἄλλου μέρουc IV 73.1. More theoretical information about the inflammation of tonsils is contained in a section entitled περὶ τῶν κατὰ παρίcθμια φλεγμονῶν (*Ecl. med.* IV 70.1).

[86] Cf. Andorlini 2012, 1-8; for the corresponding technical terminology in Latin medical literature (i.e. *amygdala*, *isthmus*, *tonsilla*, *antias*), see also André 1991, 66–68; 245.

What survives of this codex from Antinoe does not provide a satisfying basis for comparison with Oribasius' and Aetius' texts; therefore, it is not possible to state how the content of the entire chapter was organised. Nonetheless, the analysis of this text shows that the anonymous compiler had access, either directly or indirectly, to the treatises of medical writers of past generations, and still followed original arrangement criteria.

12 εἰρημένα: A similar expression seems to be contained also in the previous section, cf. l. 8 ε]ἰρημένα[.

13 [ἀ]ζύμου (ἄρτους): unleavened (bread), which was recommended by Galen for people affected with stomach disorders (*De comp. med. sec. loc.* XIII 173), is mentioned as an ingredient in a medical compound *ap.* Ps.-Gal., *De remed. parab.* XIV 547. A similar substance also occurs in the subsequent recipe.

15 ἄρτου: "loaf of bread"; the ἐξ ἄρτου κατάπλασμα was regarded as an all-powerful remedy against inflammation. Different plasters made of ἄρτος are attested according to specific necessities, characterized by the addition of alternative ingredients (cold water, sour wine mixed with cold or warm water; rose-oil, butter or honey), and different methods of preparation, cf. Orib., *Coll. med.* IX 26. It is conceivable that the recipe in the margin was an example of this typology of plasters.

(b)

The overlapping with already known passages is not clearly defined, especially considering that the pharmacological section is one of the most liable to adaptations, additions, and omissions. The text on the back does not preserve any explicit mention of ἀντιάδες nor παρίσθμια; nonetheless, most of the substances mentioned in the papyrus (i.e. date-palm, honey (?), licorice root, black mulberries, chamomile), occur variously combined and also mixed together in several sore throat ointments.

1 βοηθή[ματα: the use of the plural seems more likely according to ll. 6-7 (διαχ-]/ρίσματα), l. 10 (δι̣ὰ τούτων), and l. 11 ([ο]ῖ̣ς).

4 [κ]ατ' ἀρχὰς ὑπ [Plausible supplements are ὑπέ[χ- "undergo, suffer", possibly with respect to the first symptoms of the disease, or ὑπά[ρχ- "begin".

7-8 φοι]|νίκων: “date-palm” was commonly employed in remedies against tonsillitis and sore throat.

7-9 Possible partial restoration is: φοι]|νίκων κ(αὶ) τὰ μελίτ[ου κ(αὶ) (φακοῦ lentil) ῥόδω]ν ἢ [ ]ξ .ο κ(αὶ) τὸ γλυκυ[ῤ]|ῤίζης [...], cf. Paul, *Epit. med.* III 26, Εἰ μὲν ἐν πυρετῷ φλεγμαίνοι παρίσθμια καὶ κιονίς, ἀναγαργαρίσματα ἁρμόζει δι' ἀφεψήματος πιτύρων ἢ ῥόδων ἢ φοινίκων ἢ μύξων ἢ φακῆς· ἐνδιδούσης δὲ τῆς φλεγμονῆς ἢ ἀκμαζούσης μικτέον αὐτοῖς τὸ μέλι. The genitive form of μύξα or the diminutive μυξίον “sebesten plum (*Cardia Myxa*)” seem not to fit the lacuna in l. 8. However, the traces are insufficient to identify individual letters with any certainty.

9 μόρων: The use of black mulberry is very frequently attested among remedies for the inflammation of tonsils, cf. Orib., *Ecl. med.* IXX 1.1, a chapter entitled πρὸς παρισθμίων φλεγμονὴν ἡ διὰ μόρων, in which a proper recipe is provided: Μόρων χυλὸς Ko <ιβ>. ἕψε, ἕως παχυνθῇ· εἶτα προσλαμβάνει οἴνου αὐστηροῦ ξ <α> καὶ γλυκέος Κρητικοῦ, ὃν ἡμεῖς σταφιδίτην καλοῦμεν ἐπιχωρίως, ξ <α>, μέλιτος ξ <α>, σμύρνης ʃ <δ>, κρόκου, ὀμφακίου, σχιστῆς ἀνὰ ʃ <β>. ἕψε ἕως συστάσεως. This remedy, mixed with warm water, is also prescribed for the laceration of tonsils (πρὸς τὰ ἐν παρισθμίοις λοιμικὰ ἕλκη IXX 3.1). Black mulberry is also attested in combination with licorice and honey as in the papyrus, cf. Orib., *Ecl. med.* XXXV 1.8-12 κροκίου μιγνύειν τῷ μελικράτῳ ἢ κόστου ἢ γλυκυρρίζης ἀφέψημα· ἐν δὲ παρακμαῖς χυλὸς πτισάνης λεπτός. διάχριστος δ' ἡ διὰ μόρων ἢ ῥοὸς ἀπόβρεγμα κατακόρως κεχρωσμένον τῇ γεύσει ἐμφαῖνον τὴν στῦψιν.

10 Αἰγυπτία: Ointments called Αἰγυπτία were employed for their astringent property to cure different pathologies, including the inflammation of tonsils. An Egyptian decoction was specifically used to prepare ἀναγαργαρίσματα for the symptoms of inflammation caused by abscesses, cf. Aet. VIII 48.45-54 ταχὺ γὰρ ἀφίσταται τὰ παρίσθμια. ἀποστήματος δὲ γενομένου παραύξεται τὰ τῆς φλεγμονῆς σημεῖα (…) συνεργεῖ δὲ εἰς τὸ μαλάξαι καὶ πεπᾶναι τὰ παρίσθμια ἐν ἀποστάσει γενόμενα διάχριστος, ἡ λεγομένη Αἰγυπτία, σκευαζομένη διὰ

ῥητίνης τερεβινθίνης καὶ μέλιτος καὶ ἐλαίου γλυκυτάτου. One recipe is specifically recommended after surgical treatment of tonsils: Aet. VIII 48.74-77 μετὰ δὲ διάστημα ἱκανὸν τῆς χειρουργίας καὶ ταῖς ἑξῆς ἡμέραις μελίκρατον διακλυζέσθω, διάχριστος δὲ προσφερέσθω ἡ ἐπὶ τῶν ἡλκωμένων παρισθμίων ἁρμόδιος, οἷά ἐστιν ἡ Αἰγυπτία κροκηρὰ καὶ αἱ παραπλήσιοι. ἔστι δὲ ἡ Αἰγυπτία αὕτη.

The name Αἰγυπτία alludes to the Egyptian origin either of the remedy itself or of a specific ingredient. Effective against the inflammation of tonsils and throat, it is, in fact, a mixture of various ingredients among which Αἰγυπτία (Ἄκανθος?), here indicating a single component rather than a compound, Alex. Trall., *Therap.* II 139.5 οὐδὲν δὲ ἧττον ἰᾶται τὰ παρίσθμια καὶ ἀντιάδας καὶ γαργαρεῶνα φλεγμαίνοντα μιγνυμένη τῷ χυλῷ τοῦ ὄμφακος καὶ καρύων λεμμάτων καὶ κράνων καὶ πρίνων καὶ οὔων καὶ τῇ Αἰγυπτίᾳ καὶ τῇ ἀνθηρᾷ. Another ἀναγαργάρισμα for sore throat combining Egyptian Acacia (*Spartium junceum*) with licorice, date palm and honey, can be found *ap.* Alex. Trall., *Therap.* II 139.18ff. Ἀκάνθης Αἰγυπτίας. δραχ. α′ ἴρεως . . . . . δραχ. ⏑′′ γλυκυρρίζης . . . . δραχ. ⏑′′ πιτύρου σίτου . . . φουκτὴν α′ ῥόδα ξηρὰ ὀλίγα καὶ Νικολάου φοίνικας ε′ ἢ ζ′. ἐψήματι ἢ ὕδατι ἔψε καὶ τῷ ζέματι μετ' ὀλίγου μέλιτος ἀναγαργαριζέσθωσανκαθ' ὥραν.

13 χαμαιμήλ[ων: Chamomile was recommended for its astringent, warming, relaxing, laxative properties, and for inducing perspiration, cf. Gal., *De simp. med. temp. ac fac.* XI 833.6. It is quoted in a remedy for tonsils *ap.* Paul, *Epit. med.* VI 31.2.24-27 τὰ δὲ περὶ τὸν τράχηλον ταῖς διὰ χαμαιμηλίνου ἐμβροχαῖς ἐπί τε τούτων καὶ τῶν τὰς ἀντιάδας ἀφῃρημένων διὰ τὴν συμπάθειαν περιθάλψομεν καὶ τοῖς ἀναγαργαρίσμασι καὶ διαχρίσμασιν ὁμοίως χρησόμεθα.

2.4 *P.Ant.* III 124: a didactic treatise on dietetics

P.Ant. III 124 (*a*) ↔, (*b*) ↕ (Oxford, Sackler Library, Papyrology Rooms P.Ant. 124)	fr. **1** 11,9 × 12 cm; fr. **2** (i) 4,8 × 3 cm + (ii) 12 × 15 cm + (iii) 3,1 × 2,8 ; fr. **3** 9 × 3,6 cm; fr. **4** 8,3 × 4,6; fr. **5** 5,8 × 7,4 cm; fr. **6** 4,4 × 4,3 cm; fr. **7** 2,5 × 3,7 cm; fr. **8** 4.5 × 4.6 cm; fr. **9** 3.8 × 3.6 cm; fr. **10** 4.2 × 2.6 cm; fr. **11** 3 × 2.9 cm; fr. **12** 1.7 × 2.3 cm; fr. **13** 2.5 × 3.1 cm; fr. **14** 2.3 × 3.5 cm; fr. **15** 2.2 × 2 cm; fr. **16** 2.3 × 2.5 cm; fr. **17** 1 × 0.8 cm; fr. **18** 1 × 1.1 cm	6th AD
MP^3 2380.1; *LDAB* 6316		Antinoopolis

P.Ant. III **124**[87] consists of 18 fragments of a papyrus codex written in a regular, accurate, well-spaced hand of 'Coptic uncial' type assigned to 6th cent. AD. It preserves one of the upper and lower corners of the original sheets in frr. 1, 4 and 5, whereas frr. 2, 3, 4, 5, 7, 8, and 10 come from the middle part including portions of the lateral margins, which are rather generous (about 2.5 cm). The majority of lines contain between 26 and 28 letters, and the orthography is relatively accurate, with the exception of misspellings in frr. 1 *(b)* 9, and 3 *(b)* 3, itacism in fr. 2 *(b)* 12, and interlinear corrections made by the scribe in frr. 1 *(b)* 8 and 5 *(b)* 7-8. The text lacks accents and breathings, although *diairesis* is visible on υ in fr. 1 *(a)* 4; punctuation is effected by *paragraphoi*, mark ϛ, a blank space within a line, a blank space of one line, indentations. The abbreviation of καὶ and superlineation for ν are employed respectively in fr. 8 *(a)* 1, 4, and frr. 1 *(b)* 2, 11, 12; 2 *(b)* (ii) 11 frequently, even though not systematically, at the end of the line.

The manuscript is concerned with dietetics in connection with fever; it has been regarded as an anonymous treatise περὶ διαφορᾶς πυρετῶν by Kudlien *ap.* Barns – Zilliacus 1967, 44, whereas a treatise on dietetics including a section devoted to the different types of fevers has been assumed by Kollesch 1978, 144. So far, the

[87] Barns – Zilliacus 1967, 39-45; http://litpap.info/dclp/65075.

hypothesis that Galen might be the author has not been confirmed (cf. Kudlien *ap.* Barns – Zilliacus 1967, 44; Fleischer 1969, 642; Manetti 2008, 179).

The content of most fragments seems homogeneous, concerned with a single medical issue, i.e. dietetics, in relation to specific medical conditions. Frr. 1 and 2 preserve on side *(a)* a classification of food properties (i.e. easy/hard to digest, assimilate or eliminate) according to their mixture of hot-cold-dry-moist with reference to both general principles and specific foods. On side *(b)*, recommendations are given regarding suitable or unsuitable foods in case of fever and a distinction is made between different pathologies. Except for a few cases that seem to point to different topics, the remaining fragments are mostly minor and barely legible, but isolated words in these remains generally deal with dietetics, suggesting continuity in medical discourse.

In fr. 1 *(b)* 7-13 the anonymous author quotes from *Aph.* I 16 (IV 466.17-18), and explicitly assigns the excerpt to Hippocrates. The papyrus text specifically resembles the first part of the aphorism, αἱ ὑγραὶ δίαιται πᾶσι τοῖσι πυρετταίνουσι ξυμφέρουσι, which is frequently quoted more extensively by Galen including the expression μάλιστα δὲ παιδίοισι καὶ τοῖσιν (*Thras.* I 114.4-5; *Ad Glauc. meth. med.* XI 42.1), and in a few cases the *incipit* of *Aph.* I 17 ἄλλοισι τοῖσιν οὕτως εἰθισμένοισι διαιτᾶσθαι (*San. tu.* VI 34.9-11; *Meth. med.* X 591.11-13).

In Antiquity *Aph.* I 16 was indeed reported by medical writers either in a 'short' or 'long' version; in the commentary on *Aphorisms* (XVIIb 425.11-428.5), Galen refers to patients with fever according to their age and habits, but *P.Ant.* III 124, as well as Celsus (III 6.10), Aretaeus (II 93.6), Alexander of Aphrodisia (*in Top.* II, 2 73.21), and the anonymous author of a rethoric speech (*Rh.* III 741.22), do not refer to habit and children. Although the context cannot be entirely reconstructed, the short quotation in *P.Ant.* III 124 apparently responds to the need for brevity, and should be understood in a more general sense, probably with reference to the Hippocratic principle of treatment through opposites (feverish people are regarded as dry and hot, cf. Theoph., *In Hipp. Aph. comment.* II 283.1ff.; Ps.-Gal., *De opt. secta* I 114.12

θεώρημα καθολικόν)[88]. The author first seems to provide general indications on the diet suitable for all feverish patients, whereas in later chapters (cf. fr. 2 *(b)*) he describes appropriate foods by distinguishing between various pathological conditions.

Hippocrates' quotation is introduced by a two-line *capitulatio* (5-6), set in a 3-4 letter *eisthesis*. It has been regarded as simply a short title introducing a new section, but it shows a few distinctive features. The heading in the papyrus reads as follows:

τίcιν ἐπὶ τῶ̃[ν] πυρ̣ε̣̣cóν
τ̣ων τ̣ρ̣οφαῖc [χρηcτέ]ον [

The whole expression is formulated as a question introduced by the interrogative pronoun τίc. An introductory question is also attested in fr. 2 *(b)* 10-11:

τίc [ ] . . λω[. . .]ν
[πυ]ρ̣ετῶν [. . . . .] . ν τρ̣[οφ]ῶ̃(ν)

The similarity with the previous case is remarkable when considering the interrogative pronoun at the beginning of the line and the indentation of 3-4 letters, though exclusively employed here for one out of two lines. The poor condition of the artefact does not allow a clear reading of the text. I suggest the possible restoration τίc [διαφορά ἄ]λλω[ν τῶ̃]ν | [πυ]ρ̣ετῶν κ[αὶ ἰδί]ων τρ̣[οφ]ῶ̃(ν) guided by related discussions in Greek medical writings.

In addition, a question-heading is doubtfully contained in fr. 1 *(a)* 1-3, which shows an indentation of one letter space in its first line (see comm. *ad loc*.).

Lastly, a heading set in a 3-4 letters *eisthesis* is preserved in fr. 7 *(a)* 5:

] περ̣[ί χειρονομίαc.

The sequence diverges from the format so far illustrated as it is not introduced by an interrogative pronoun but seems to comply with a descriptive arrangement, where

[88] Cf. Manetti 2008, 178f.

chapter-titles are modulated in the form 'περ[ί *x*'[89]. By also considering the remains of the subsequent line, I found a conceivable match with an excerpt by Antyllus preserved *ap.* Orib., *Coll. med.* VI 30.1 on shadow-boxing. Once again, the scanty traces on the fragment prevent us from clearly seeing what the general structure and content of the text may have been. However, if the identification is correct, it might be assumed that a treatise on dietetics was combined in this codex with other material gained from previous sources, maybe attributable to Oribasius.

The format of the papyrus, comprising lemmas evidenced by indented lines, narrows down its generic identity to a particular genre of medical literature characterized by an argumentation in question and answer form[90]. Due to its discursive approach, however, it does not correspond to catechisms on papyrus[91], which usually report information very concisely[92]. This anonymous treatise reveals a few expository principles familiar with the techniques of exegesis practiced among Alexandrian commentators in the 6th and 7th centuries[93], which include the use of repetition, cross-referencing and the ever broader subdivisions until the topic is fully dealt with. In fact, this text displays a careful structure best exemplified by the numerals marking

[89] A comparative study between a medical catechism and a doxographical collection on the subject of natural philosophy in Aetius' *Placita,* demonstrates that the structural pattern and the general method of exposition based on a pre-determined set of question-types exhibit significant overlaps in both kinds of texts, even though in Aetius most of the chapter titles, whose contents clearly pertain to problematic issues, have been simplified to the more descriptive form 'περὶ *x*', cf. Leith 2009, 107-123. The same characteristics can also be observed in a few medical works, such as Soranus' *Gynaecia* (1st-2nd AD; cf. *e.g.* IV 1.1 περὶ δυστοκιῶν· τί ἐστιν δυστοκία), and its Latin translation by Caelius Aurelianus (5th AD).

[90] On the study of Byzantine encyclopaedism through question-and-answer collections (ἐρωταποκρίσεις), cf. Papadogiannakis 2011, 29-41.

[91] For a list of medical papyri in question-answer format, cf. Andorlini 1999, 9, with the addition of *P.CtYBR* inv. 109v (late 2nd-early 3rd AD; MP^3 2340.01, *LDAB* 10278), cf. Hanson – Mattern 2001, 71-83; *P.Strasb*. inv. G 849 (4th AD; MP^3 2343.01, *LDAB* 10299), cf. Magdelaine 2004, 63-77; *P.Oxy.* LXXIV 4972 (2nd-3rd AD; MP^3 2354.01, *LDAB* 119317); *P.Oxy*. LXXX 5235 (4th AD; MP^3 2340, *LDAB* 5698), 5239 (2nd-3rd AD; *LDAB* 388545), 5241 (2nd-3rd AD; *LDAB* 388547) and 5238 (2nd-3rd AD; *LDAB* 388544), whose content is principally therapeutic with an emphasis on fever, cf. Hirt – Leith 2014, 75-77; 96-97; 105-113; 91-96.

[92] On the catechistic tradition, cf. Zalateo 1964, 52-57; Ieraci Bio 1995, 187-207; Andorlini 1999, 7-15; Hanson 2003, 199-217; Marganne 2004, 75-77; Maravela-Solbakk – Leith 2004, 637-650; Leith 2009, 107-123; Bonati 2018; Reggiani 2018 (forthcoming). The continuity of the genre in the Latin-speaking West is attested by Ps.-Soranus' *Quaestiones medicinales*, Muscio's *Gynaecia* (5th-6th AD), and the therapeutic handbook by Paul of Nicea (7th AD).

[93] Cf. Duffy 1984, 21-27; Andorlini 2007b, 385-398; see extensively Overwien 2012, 157-186.

the various parts the discourse has been divided into and the order according to which they have been arranged, cf. fr. 1 *(a)* 8-9 τε-]|τάρτης διαφορᾶς, and fr. 2 (ii) *(a)* 13-15 προη[γ-]|μένων ... δευτέρω[ν] ... τρίτων τροφῶν. Associated to the repetition of keywords, this procedure for dealing with medical material gives the impression that it is accessible and can more easily be remembered. Questions and repetitions facilitate memorisation and the *diairesis* or division of a subject into independent units is conducive to a selective consultation of the text. The use of these devices sustains the hypothesis that this copy was commissioned or realised by a physician for use in his own education and training. Though not adopting an argumentation by means of aphorisms, the proceedings of the medical discourse in this treatise consists of brief portions of demarcated text and may be regarded as a development of the concise style of aphorisms, which represented one of the canonical genres in medical education[94]. In this sense, the quotation from Hippocrates in fr. 1 *(b)* may comply with the didactic purpose of the manuscript.

The most notable points of this text may be summarised as follows. Firstly, *P.Ant.* III 124 contained an anonymous treatise on dietetic regimen in connection with fever in which Hippocrates is adduced as an authority. Although referring to arguments based on Galen's humoral theory, it differs in phrasing and contains pieces of information and details that cannot ultimately be ascribed to Galen. Secondly, the arrangement of the material resembles to some extent the genre of medical definitions, particularly in the use of introductory questions, and yet it cannot be assigned to the catechistic type. The medical discourse, which involves both theoretical and practical information and actually seems to proceed from the general to the particular, is articulated according to a logical structure likely intended for a didactic purpose. Thirdly, alongside the dietetic treatise, which forms a homogeneous unit, this codex also appears to contain at least one fragment from another section concerned with different topics and

[94] Ps.-Gal., *Def. med.*, XIX 346.7-8 (1st AD): χρειμώτατοι γενήσονται οἱ ὅροι; δι' ὀλίγων τὰ πολλὰ διδάσκειν δυνάμενοι. Cf. Andorlini 2007b, 392f.

arranged according to another format, thus possibly representing an example of a miscellaneous book.

The study of *P.Ant.* III 124, whose tenor of discussion points to a medical work of appreciable level, enhances our awareness of the variety forms that the Byzantines used to organize and transmit medical knowledge.

Fr. 1

(a) ↔

[ ]. ον γένος καὶ τινα κρέα ῥαδί[ως]
πέττεται μὲν καὶ οἰκονομε[ῖται]
πολυτροφώτερα δὲ καθέστη[κεν]
ἀλλὰ τὸ μὲν θερμαῖνον καὶ ὑ[γραῖ-]
νον γένῳ[c] πᾶν εὐδιοίκη[τον]
ε.[. . .]. .[. .]λην ἐναντί[ ]
[. .]. . . . ψῦχον καὶ ξηρ̣[ῖνον]
δυcδιοίκητον οὔcης δὲ κ̣[αὶ τε-]
τάρτης δ̣ιαφορᾶc καθ' ἣ[ν]
τας μὲν ῥαδίως διαπ̣[ ]
ἀπαλλάccεcθαι τοὺc [ ]
δὲ παραμ̣ονὴν ε̣ἰc τ̣ε̣[ ]
μὲν καὶ μ̣ε̣λ̣ι κ̣ [.]. ρ̣ε̣α̣. [ ]
τὸ τῶν ἐψημ̣άτων γέ[νος δυcα-]
παλλάκτως [ἔ]χει του [ ]

---

1 [. .] Perhaps begins with ν or two letters Barns **2** πετ'τεται Barns **3** καθεcτη[ ] Barns **4** ϋ[pap. **6** Second letter: ν or π Barns **11** Last letter: ε or θ Barns **13** After κ: α, η or ι ? Barns]ε̣ρ̣ε̣α̣. Barns **15** Last letter: c? Barns

(b) ↕

[. .]δειοι τοῖc πυρέccουcιν, τινὲc

[δὲ] τ̣οῖc χωρὶc πυρετοῦ νοcοῦcι(ν)

[ἀρκ]τέον δὲ ἀπὸ τῆc ἁρμοζούcηc

[τρ]οφῆc τοῖc πυρέccουcιν ⸗—

τίcιν ἐπὶ τῶ̃[ν] πυρε̣ccόν-

τ̣ων τ̣ρ̣οφαῖc [χρηcτέ]ρ̣ον [∫ ∫

[καὶ ὁ μὲ]ν Ἱπποκράτηc ἐν τοῖ̣[c] Ἀφο-

[ριcμοῖ]c̣ φηcιν ὅτι ταῖc ὑγραῖc [[τα̣]]

[. . πᾶc]ι τοῖc πυρεταίνουcι

[cυμφέρο]υcιν, ὑγρᾶ δὲ λέγων τὰc

[. . . . .]ωδειc καθολικώτερο(ν)

[. . . . .] καὶ ἁπλούcτερον ἡμῖ(ν)

[. . . . .]ται οἷα̣ δ̣ὲ̣ [. .]. ρoc τεχνι̣

[. . . . .]. ων διὰ τοῦ̣τ̣ο̣ οὐκ εμε

[. . . . .]. . . . . [ ]. δεξ. . . . .

----------∫ ∫ ∫ ∫

2 νοcουcι pap. [. .] Barns **3** [χρηc]τ̣εον Barns **7** [καὶ ὁ μὲ]: αἵ Manetti **8** [[τα̣]] perhaps αἵ above the line Barns, Manetti **8-9** [. . . . .]ι, [[τα̣]][δε δὴ πᾶc]ι ? Barns **9** πυρετενουcι pap. **10** [cυμφερο]: Barns **11** καθολικωτερο pap. **12** ημει pap. **13** After δ̣: ε? Barns οἷα̣ δ̣ὲ̣: Manetti Before ρ̣: probably π Barns **15** After ξ: αι? Barns

Fr. 2

(a) ↔

(i)

με. [ ]

τεc πρ̣ [μά-]

λιcτα̣ [ ]

μενṭ̣ [ ]

ε̣ṭ̣α̣[ ]

---

1 Third letter: λ or χ Barns **5** . . α̣[, second letter: ε or θ Barns

(ii)

[

[

τε̣[

ρε̣ . [

θαν̣[

ο . [ ]εκτ . [

ε[[φ]][ ]νται μ̣[

κ[τρ]ο̣φὰc τῳ[

επ̣[. .] . acocμ̣[. . . . .]μ̣ενο[

δ[ὲ τὰ]c ποιό[τητ]α̣c̣ πάντω[ν]

τὴ̣[ν] μ̣άcη̣[c]ι̣ν καὶ τὴν κα[τάπο-]

c[ιν] το δὲ τῶν ὡρίων γε̣ [

ἐ[c]ṭ̣ιν μὲν οὔτε τῶν προη[γ-]

μένων οὔτε τῶν δευτέρω[ν]

ἢ τρίτων τροφῶν εἰκότω[c ἄν]

τιc οὐδὲ τροφήν αὐτὸ προcα̣[γο-]

ρεύcιεν οὐδὲ ὡc τροφήν π̣[ροc-]

ενέγκοι κατὰ περίcτασιν [

2 π or τ Barns **4** Third letter: α or ω? Barns **6** Second letter: ι or ν? Barns **7** φ scratched out Barns **9** Before αc: τ? Barns **11** κα[Barns **12** c[ ]το Barns; Last letters: τε̣[also possible, π̣[Barns **13** προη[γ] Barns

(iii)

]ιc διαιτ̣[

]ι cυνεχ[

]γκειμε̣[ν

]ιν̣ κα̣[

(b) ↕

(i)

[ ]δ cηχρη

[ ]

[ ]ν πυ-

[ρετ τρ]οφαῖc

---

1 After δ: ε or o Barns

(ii)

[ ]κα[

[ ]πα

[ ]

[ ]. δε

5 [ ]. η

[ ]υμε

[. .]. . ρ. [ ]ε̣ρα

[.]ρ̣ιω[ ]δα

ε̣ιcπ[ ]α

10 τίc [διαφορά ἄ]λλω[ν τῶ]ν

[πυ]ρετῶν κ[αὶ ἰδί]ων τρ[οφ]ῶ(ν)

[οἱ] διαιροῦντες [π]λευριτ[ικ]οῖς

[καὶ] νεφριτικοῖς καὶ ληθαρ[γι]κοῖς

[π]υρετοῖς ἔτι δὲ καυσώδεσιν

[κ]αὶ συνκοπτικοῖς καὶ διαφο-

[ρη]τικοῖς ἰδίας ἑκάστοις τρο-

[φὰ]ς ἀναγράφουσιν εἰ μὲν πρὸς

[τὸ] σύμπτωμα ἐνιστάμενοι ο

[. . τ]ὴν καῦσιν ἢ ψύξιν ἢ φλέγμα

5 Before η: γ or τ Barns **7** [.]cτρ . [? Barns **10** Before λω: λ or χ Barns **10-11** τις[ ]. . λω[. . .]ν | [πυ]ρετων . [. . . . .]. ν τρ[οφ]ω(ν) Barns **11** Last letter before lacuna: κ? Barns **12** [.] διαιροῦντες Barns **19** [. .] ν Barns

(iii)

]. . [

]τατης δ . [

ἀ]ρμόσαι τ[

]τωτων[

---

2 Last letter: ω? Barns

Fr. 3

(a) ↔

[ἐξα]νθήμα[τα . . . . .] [

[ρευ]ματιζομε[.]. . [. .] ἔντερα

[στό]μαχον εἰ μὲν δή μετρίως

[ ]μεν ἀναξηρᾶναι καὶ . [

5 [ ]. τονῶσαι γῆ χρησόμεθα

[ ]ματι· εἰ δὲ μὴ μᾶλλον πο

1]νθημα[Last letter: γ, ι, ρ, τ, υ, φ or ψ Barns **2** [ ]ματιζομε[Barns **4** After και: μ? Barns **5** First letter: η, ι or ν Barns **6** Before πο: ε or ο Barns

(b) ↕

[. . . . .]νεται γὰ[ρ

[γ]ινομέ[ν]ας κατοχὰς τ[ῦ

[μ]ατος ἐν ταῖς ἐξαιρέσεσιν [

[.]ε ἀνάρμοστος καὶ μάλις[τα αἵ-]

5 ματος ἀναγωγῇ ὁμ[οίως δ[

[. . . . .]μα. . [

---

2 κατοχας το[Barns, αἵ-[μ]ατος Marganne **3** αν ταις Barns, εξιρισεσιν pap., ἐξαιρεσεσιν (or -ρησεσιν) Kudlien **4** Second letter might be c Barns μαλις[τα Barns **4-5** αι-|ματος ? Barns **5** c or ο, αναγωγης? Barns; ὁμ[οίως or ὅμ[οιος Barns

Fr. 4

(a) ↔

δι[αί]τῃ ἀποκεκα[

πολὺ γὰρ τῆς γῆς ξ[ηρ

λον ἁλσὶν δύναν[ται

τω ἀναξηραίνετ[αι

2 της της ξ[Barns

(b) ↕

[ ] . . . . . [

[ ] . . . . . εθηλυ

[ ] . . . . . ϱ . ω . ερακ

[ ] . . . . . ηc̣ε̣ιν

Fr. 5

(a) ↔

ϱων ἐ̣ν τῷ̣ [

τρ̣ό̣π̣ῳ δια [

δὲ κ̣α̣τὰ τὴν [

ε̣ι̣ ἐκ τεταϱ[τ

5 τ̣ε̣c̣ α̣ϱ̣ . ε . ο̣τ̣[χϱονί-]

ω̣ι̣ καὶ ὀξέῳ[ν

. . . . . [

α[.]τουc χϱ[

2 Last letter: λ or χ Barns **4** τετα . [Barns **5** After α̣ϱ̣: μ or two letters Barns **5-6** χϱονι-]|ω̣ι̣ καιι οξεῳ[ν Barns

(b) ↕

]κ̣α [ ] . . c̣

] . τροφὴ ἐπιπ[

]ενων καὶ τῶ̃(ν)

]θ̣ε̣μενο̣[.]c καὶ

5]νουc θίδρακι

τ]ϱοφαῖc καὶ αν

c

] . cτι[[ν]] οὐκ ᾷ̣ν

] . αcτο . ˩˙˥ καὶ

1 After χα: τ? After lacuna: ϱ, φ or ψ? Barns **2** First letter: ε? Next: ϱ? Barns **7** First letter: η? Barns **8** First letter: λ or χ? After το: c? Correction above, illegible Barns

Fr. 6

(a) ↔

]c [

]ι πολυ[

]. ι ταϱ [.] .[

]α διῳδ[ηκ] . .α[

πε]πλαδηκότα ε [

] ικοις ελε[

]αις πλα[

] ενοις [

]. . . .[

(b) ↕

]. cωμ [

] ειϱωγ[

] τ [. .] μοι cα[

] .ο[ ]τε τοῖc γ. [

]ϱπνευμ[

ἀ]πομηκυ[ν

]. ν[

(a) **1** Second letter: α? Barns **3** After ϱ: ε or ο? Barns **4**]αδιωδ[...] Penultimate letter: ε, θ, or ο Barns

(b) **6**]. ομηκυ[Barns

Fr. 7

(a) ↔

]. ογ[

]ουτω[

]ται τοc[

]. ται τοc[

] περ[ὶ χειρονομίας. Orib., *Coll. med.* VI 30.1

]Ὀρχήcε[ωc

6]ọ̣ϙχηϲε[Barns

(b) ↕

]ν αποβ[

]δ· ετον[

]θ̣ϵϲιν α̣[

]ε καὶ επ̣ιῳ̣ [

5 ἰ]κανῶϲ [

]επ[

Fr. 8

(a) ↔

]τ̣ε κ(αὶ)

]τα

] ο̣ῖνοϲ

]αι γάλα κ(αὶ)

5]υϲα

]ϲδ̣ι

]πτου̣[

(b) ↕

ξ[

ϙο̣[

δε̣[

δηλεκ [

5 τα[

λ[

β [

(a) **1, 4** κs

(b) **7** Second letter: ε or o? Barns

Fr. 9

(a) ↔

] [.] [

(b) ↕

]. . [

]ν εικοσι ̣ι̣χ̣[
]ωτερα[
]ιδόντων ε[
]. κρεῶ̃[ν

]. ηδτετ̣τ̣α[
]ο κις [
]ᾳ̣ι διὰ τὴν κ[
]ς̣ε̣
]ω ου

(a) **2** After νεικοσι: α or δ Barns **5** First letter: η, ι or ν Barns, κρεῶ̃[ν Marganne
(b) **2** δ<έ>? Barns **3** Second letter: α or λ Last: α? Barns

Fr. 10

(a) ↔

]υλων
]ηδε μαλ
] ἅλες πρὸς
]. λεπρ̣ὸ̣ς

(b) ↕

ε [
ωμο [
μενᾳ̣ τ̣ων[
μυ̣ῶδες [

(b) **1** First letter: τ? Last: ϱ? Barns

Fr. 11

(a) ↔

]ν̣ους[
]ερ . τ . [
]. σπε̣ψ [
] ψιν καχ̣[
] [.]ε̣[

(b) ↕

] . [
] εν οξ[
] . ντρι . [
]τε καὶ κ [
] [

(a) **2** After ϱ: η or αι? Last letter: ε or ο? Barns **3** First letter: α or ε? Next: ι? Barns
(b) **2** First letter: ν or two letters? Barns

Fr. 12

(a) ↔

]ẹωc [

]κωc [

]ṛερι̣ [

]̣ εφθ[

(b) ↕

]ṭα̣ [

]οπο̣ [

]απλọ[

]ην [

(a) **1** Last letter: α or δ Barns **2** Last letter: π? Barns **3** Last letter: π or τ Barns **4** First letter: Barns

(b) **1** Last letter: τ? Barns **2** Last letter: ι or ν Barns **4** Last letter: ε or τ Barns

Fr. 13

(a) ↔

]ṭατη[

]νεα[

]cφ[

]ακα ̣[

5]ν πε[

(b) ↕

] ̣ ̣ ̣[

]ẹc [

]εικ̣ [

] ν[

5]νδυ[

(a) **4** Penultimate letter: α, δ, κ, λ, or χ Barns

b) **4** First letter: η or ι Barns

Fr. 14

(a) ↔

] ọ[

(b) ↕

] [

]ocπ̣[
] ε̣̣ρ̣α̣ν̣[
]μ̣ον [
5]απ̣ο̣[
] [

]. χαν̣[
]. τ . μ̣[
c]θαι τα[
5]ναν[
]τε̣[

(a) **1** First letter: α? Barns
(b) **3** First letter: o or ω; after τ: αγ? Barns

Fr. 15

(a) ↔

]δ̣ιω̣ς̣ [
]ε̣υ̣ρ̣ων̣[
]ηcαι [
]κη[

(b) ↕

] [
]νεχ̣ρ̣[
]cιc καμ [
]cτε[

Fr. 16

(a) ↔

γ]ρ̣άψαμε[ν
]ν̣τ̣ι̣κ̣α̣[
]cτ[

(b) ↕

]. ν[
]μ̣ενοι [
]βλεπον[
]ν̣τ[

(b) **1** First letter: α? Barns **2** Last letter: π or τ Barns

Fr. 17

(a) ↔ *(b)* ↕

]ει[	] .[
]ε̣ν[	]να[

Fr. 18

(a) ↔ *(b)* ↕

]ǫ̣ιc̣[	]χ̣ατ[
] ν [	]. δ .[

(a) **2** Last letter: χ? Barns
(b) **2** First letter: ι or ν; last: ε or ο Barns

Translation

Fr. 1

(a)

(?) category and certain (?) meats can be easily digested and assimilated but is claimed to be more nourishing, but all the warming and moistening category is easy to assimilate … on the contrary … the cooling and drying (category) is hard to digest, and then existing a fourth difference according to which … easy to excrete through perspiration … whereas retention … mixture of honey and … the category of boiled food … is hard to eliminate …

(b)

… (Some foods are) convenient (?) for those who are feverish, (others) for those sick without fever, but one must start with the food suitable for those who have fever.

What food is to be used for those who are feverish (?)

Hippocrates says in the *Aphorisms* that moist [regimen] can benefit all those who are feverish, but saying 'moist' … more general … and simpler, us … But which … for this reason not …

Fr. 2

(a)

(ii) foods … the qualities of everyone, (according to ?) the chewing and the swallowing, (this) of the seasonal fruits is not among the preferable foods, nor the second (choice) or the third, reasonably one would not call it nourishment, nor regard it as food according to the condition …

(b)

(ii) What is the difference of the other fevers and their proper foods.

Those who make a distinction between pleuritic, nephritic, lethargic fevers, and also burning, syncopal (fevers), and those causing perspiration, prescribe for each ones the proper food if opposing the symptoms … the heat or cold or phlegm …

Fr. 3

(a)

… abscesses … suffering from a discharge … bowels (and) stomach if in fact moderately … dry out and … strengthen we use earth …; if rather ...

(b)

…in fact when there are (breath?) retentions … is unsuitable in the excisions and especially blood discharge, in the same way …

Fr. 4

(a)

regimen … in fact much of the earth… salt they can … dries up

Commentary

Fr. 1

(a)

About 3 cm of the upper margin survives.

1-3 The damaged *incipit* of line 1 makes a number of possibilities plausible, such as [ο]ἷον γένος or [ὅ]λον γένος (cf. Barns 1967, 44). Either a statement ("the whole category and a certain kind of meat …", cf. Marganne 1981, 84) or a question ("which category and what meats …") might be supposed in ll. 1-3. The latter option may be an intriguing conjecture according to the general arrangement of the codex in question-answer form: the one-letter indentation visible in the opening line, though shorter than in other instances in the papyrus, could mark a new section starting at this point.

1 κρέα: The author presumably refers to κρέα ὕεια "pork meats", regarded as πολύτροφα especially because of its similarity to the human one, cf. Gal., *In. Hipp. Epid. VI comment.* XVIIb 17.1ff; Orib., *Coll. med.* II 28; Aet. II 121. Young porkers, as well as young animals in general, are considered as having flesh that is moister, softer and therefore better to digest than full-grown pigs, whose flesh is fibrous and dry. Moister food such as this kind of flesh is more quickly assimilated and excreted, but also less nourishing, cf. Gal., *De alim. fac.* VI 663.5. Beef, though providing good nourishment, produces excessively thick blood, whereas the flesh of sheep, which is still very moist, is worse in terms of quality of its juices and digestibility. The text refers to the humoral theory applied to the dietetic regimen, according to which every foodstuff has a specific humoral nature. By eating, a person can modify his personal temperament, his natural state of relative coldness or warmness, dryness or moistness. This modification depends on the characteristics of the food as well as on the patient's temperament[95].

[95] Cf. Scully 2008, 60-71.

4-5 Line 4 seems likely to introduce a general explanation regarding the principles of nutriment categories, possibly preluding a more specific indication, i.e. typologies of food.

ὑ[γραῖ-]||νον: For Hippocrates' prescription of moist food for fever, cf. also Steph., *In Hipp. aph. comment.* II 284: ᾽Εν μὲν τοῖc ἔμπροcθεν ἀφοριcμοῖc περὶ τοῦ πόcην εἶναι δεῖ τὴν τροφὴν τοῖc διαιτωμένοιc ἡμᾶc ἐδίδαξεν· ἐνταῦθα δὲ περὶ τοῦ ὁποίαν διδάcκει, καὶ πρῶτον μὲν ὅπωc χρὴ διαιτᾷν τοὺc πυρέττοντας διαλέγεται. φηcὶ γοῦν ὅτι πᾶcαι αἱ ὑγρότεραι τροφαὶ cυμφέρουcι καὶ ὠφελοῦcι τοῖc πυρέccουcι, διότι δηλονότι θερμὸν καὶ ξηρὸν ὑπάρχει πάθοc ὁ πυρετόc.

5-7 I have considered the possibility that another adjective attributed to the first category, *e.g.* εὐ-]||ἐκ[κριτ]ον, | εὐ[cτόμ]αχον or | εὐ[κοίλι]ον, may have been contained in the gap in ll. 5-6, but this does not seem to be convincing as the space in the following lines is not sufficient to accomodate its contrary, so as to recreate the symmetric description of opposite qualities that appears in the surviving text.

5 εὐδιοίκη[τον: According to the papyrus, not only the warming and moistening category but also warm and dry food is regarded as easy to assimilate, cf. Orib., *Coll. med.* IX 12.12.2f. ἀλλὰ καὶ αἱ τροφαὶ θερμαντικώτεραι καὶ ξηρότεραι τυγχάνουcαι εὐκατέργαcτοί εἰcι καὶ εὐδιοίκητοι. Like πολυτροφώτερα in line 3, εὐδιοίκη[τον is a feature of technical language.

7 [. .] . . .: A possible restoration modelled upon the symmetrical construction in ll. 4-5 is [τὸ γ]ένοc; from a formal perpective, however, the sentence [τὸ γ]ένοc ψῦχον καὶ ξηρα[ῖνον] is not idiomatic. An acceptable option would be [. . .] τὸ δὲ ψῦχον καὶ ξηρα[ῖνον γένοc].

10 μὲν ῥαδίωc διαπν[: Mention of the categories which facilitate or prevent perspiration is contained in Gal., *Adv. Lyc.* XVIII 239.6-11 δύο μὲν γάρ εἰcιν ἐν ἅπαcι τοῖc οὖcιν ἐπιτηδειόταται ποιότητεc εἰc διαφόρηcιν, ὑγρότηc καὶ θερμότηc, δύο δὲ ἔμπαλιν εἰc διαμονήν, ξηρότηc τε καὶ ψυχρότηc, ὥcτ' οὐδὲν θαυμαcτόν, εἰ τὰ μὲν τῶν παιδίων cώματα διά τε τὴν ὑγρότητα καὶ θερμότητα

ῥᾳδίως διαπνεῖται, τὰ δὲ τῶν γερόντων οὐ ῥᾳδίως ὑπὸ ξηρότητος καὶ ψύξεως πεπηγυῖαν ἐχόντων τὴν οὐσίαν. Along with Galen, our text possibly states that hot and moist foods are suitable for inducing perspiration, whereas the cold and dry foods produce the opposite effect. This, presumably, is the fourth distinction mentioned in the papyrus.

It is unclear what the other three distinctions are. One of them certainly is the foods that are easy/hard to digest; in the other cases, conceivable conjectures may be most/least nourishing foods, or foods that are easy/hard to assimilate, maybe in accordance with ll. 1-3, but they could also be contained in a portion of text that has not survived.

13 μέ̣λ̣ι ϰ̣ [.] . ρ̣ε̣α . : The reading is here uncertain, but the space before] ρ̣ε̣α in the end line is unlikely to contain μ̣ε̣λ̣ί̣ϰ̣ρ̣[ατον suggested by Marganne 1981, 84. μέ̣λ̣ι ϰ̣αὶ ϰ̣ρ̣έ̣α is possible according to the surviving traces after the lacuna, which best suit the descending curve of ϰ. Honey possesses hygroscopic and antiseptic properties and was recommended for various kinds of chronic diseases alongside juice of husked barley, both prepared according to the same procedures, by mixing it with fifteen parts of water and boiling until only one fifth is left, cf. Orib., *Coll. med.* IV 11.5. According to Celsus III 6.10, liquid food, or whatever approximates to fluid, is best for patients in fever; honey can be correctly added to give the body more nutriment, unless it offends the stomach.

(b)

1-4 The passage alludes to the Hippocratic aphorism I 16 Ἥν τις τῷ πυρέσσοντι τροφὴν διδῷ ἣν ὑγιεῖ, τῷ μὲν ὑγιαίνοντι ἰσχὺς, τῷ κάμνοντι νοῦσος. In this case, however, a distinction has been made between the effect of the same food on sick and healthy people.

1 [. . .]δειοι: Possible supplement is ἐπι-|[τή]δειοι, “convenient, suitable”.

3 [ἀρϰ]τέον: The supplement [χρης]τ̣έον suggested by Barns, though fitting into the space available in the line, does not suit the preposition ἀπὸ. By accepting the restoration [ἀρϰ]τέον, one might suppose that the codex originally contained a much more ample discussion expounded in a sistematic way.

5-6 The two-line heading briefly introduces the topic of the new section, i.e. the most suitable food for feverish patients. Disturbances of bodily humours could produce the excess heat necessary for fever attacks, while a good diet could ensure and restore health through its effect on the balance of humours. In Hipp., *Flat.* 7.1-7 bad regimen consisting in the taking of excessive nutriment, either moist or dry, and varied and dissimilar food, is regarded as the cause of fevers not common to all. Extensive directions for the giving of food in the different types of fever, including proper times for giving drink and kinds of aliment suited to the several stages of the distemper, are provided by Celsus III 5-6.

The content of the paragraph had already been disclosed at the end of the previous section (ll. 3f. *(b)*), which indeed presents itself as an introduction. The significance of the proper heading is not informative and no further detail is provided in lines 5-6 – for instance, the author's indication – but reasonably complies with a teaching purpose. Teachers rely heavily on deliberate repetition as a means to instil the central tenets of medical theory and lore, making it less likely for the reader to forget the information in a short time. In this respect, the repetition of the previous lines almost verbatim and the question format certainly functioned as a useful aid for memory. Moreover, the indentation of the lines makes it easy to quickly search for a specific content, by scanning through the codex.

Fr. 2

The first editor notes that the fibre connection is certain between (i) and (ii), and (iii) shows a ↔ fibre connection with the right or left of (ii). On the contrary, no ↕ correspondence is noticeable, and the fragment probably belonged to opposite conjoint pages[96].

(i)

I have no satisfactory suggestion on how to restore the gaps on both sides. On the back, the traces πυ-|[ϱετ τϱ]οφαῖc in ll. 3-4 support continuity in the discussion on food for feverish patients. The blank space visible in line 2 on the right

[96] Barns – Zilliacus 1967, 44.

margin might mark the end of a section and the beginning of a new one, not dissimilar from the one in fr. 2 (ii) 10-11.

(ii)

(a)

One can presume that the author is considering the properties of a certain food category including seasonal fruits, probably according to the fact that it is easy/hard to chew or swallow. The rejection of the definition of τροφή is achieved through a 'top-down' explanatory strategy (*anti-climax*), from the most to the least suitable food; however, the passage might also refer to a particular categorisation previously mentioned in the papyrus. The statement in ll. 15-17 seems attenuated by a condition (κατὰ περίςταςιν).

10 At line end, it is possible to suppose that a preposition taking the accusative, such as κατὰ, was contained.

12]το δὲ τῶν ὡρίων γε̣: A conceivable restoration is αὐ]τὸ δὲ τῶν ὡρίων γε (cf. αὐτὸ in l. 16), or τοῦ]το δὲ τῶν ὡρίων γε̣. Traces of a vertical with high crossbar (consistent with γ or τ), followed by upper left arc of a round letter (probably back of ε) are visible at line end. The available space in lacuna marginally favours the name of a specific fruit related to τῶν ὡρίων.

(b)

10-11 τίc [διαφορά ἄ]λλω[ν τῶ]ν | [πυ]ρ̣ετῶν κ[αὶ ἰδί]ων τρ[οφ]ῶ(ν): Little can be read with confidence in these lines. The heading introduced by the interrogative pronoun has been restored according to the content of the paragraph. The traces λω[are certain on palaeographical grounds; the previous remains consist of the tip of a descender curving to the right at the foot, that best suits κ, α or λ. The term διαφορά for categories also occurs in fr. 1 *(a)* 9.

12 [οἱ] διαιροῦντεc: This section seems devoted to a particular classification of fevers ascribed to a group of physicians. The supplement might be supported by the description of different typologies of fever preserved *ap.* Gal., *In Hipp. Epid. VI*

comment. XVIIa 889-890[97]. The classification of fevers is, in fact, made according to various criteria, including the categorisations κατὰ τὴν χρόαν and κατὰ τὴν οὐσίαν; the differentiation between chronic fevers; Praxagora's subdivison of acute fever; new physicians' distinction between persistent fevers; and the classifications made by physicians in Antiquity according to the part of the body affected (πλευριτικόν τινα πυρετὸν λέγοντες, ἡπατικόν τε καὶ σπληνικόν) or to the symptoms (καταφορικόν, ληθαργικόν, φρενιτικόν, ἰκτερικόν). The papyrus text, though overlapping with none of these parallels, partly resembles the latter two items, and contains a mention of symptoms in line 18.

In this sense, the restoration of the heading in ll. 10-11 "what (is) the difference between the other fevers" would be justified. If one supposes that other kinds of fever were described in the preceding paragraphs, we should assume that the material was deliberately split up into different parts and enhanced with practical information concerning the regimen recommended for the treatment of diseases. Such an arrangement might suggest the intention to make medical material more accessible and easy to memorize, suitable for those learning to become physicians.

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[97] Gal., *In Hipp. Epid. VI comment.* XVIIa 889-890: εἰρήκει δ' ὑστέρας τὰς κατὰ τὴν χρόαν διαφοράς, οὐ κατὰ τὴν οὐσίαν αὐτὴν οὖσας τῶν πυρετῶν, ἐγγυτέρω γε μὴν τῶν ἄλλων τῶν ἀπό τινος συμβεβηκότος γινομένων, ὥσπερ ὅταν ἤτοι δια λείποντας ἢ συνεχεῖς λέγωμεν εἶναι τοὺς πυρετούς, καὶ τῶν διαλειπόντων τὸν μὲν τριταῖον, τὸν δὲ ἀμφημερινόν, τὸν δὲ τεταρταῖον, καὶ τῶν συνεχῶν τὸν μὲν ἡμιτριταῖον, τὸν δὲ καυσώδη, τὸν δὲ κρυμνώδη, τὸν δὲ τυφώδη, τὸν δὲ λοιμώδη, τὸν δὲ ἑλώδη, τὸν δὲ ἡπίαλον. ὁ δὲ <Πραξαγόρας> καὶ φρενιτικοὺς καὶ ληθαργικοὺς καὶ πρός γε τούτοις ἰκτερικούς τινας ὀνομάζει πυρετοὺς ἐν ταῖς διαφοραῖς τῶν ὀξέων. οἱ δὲ <νεώτεροι> καὶ συνοχόν τινα καλοῦσι πυρετόν, οὐ μόνον συνεχῆ, καὶ διαφοράς γε αὐτοῦ τίθενται τόν τε ὁμότονον ἢ ἀκμαστικὸν ὀνομαζόμενον καὶ τὸν ἐπακμαστικὸν καὶ τὸν παρακμαστικόν. καθ' ἑτέραν δ' αὖ τομὴν κοινὴν καὶ πρὸς τὰς ἄλλας νόσους ἐνίους μὲν ὀξεῖς πυρετοὺς ὀνομάζομεν, ἐνίους δὲ χρονίους καὶ κατ' ἄλλην εὐήθεις τε καὶ κακοήθεις. καὶ μέντοι καί τινας μὲν τεταγμένους ἢ ἀτάκτους, ἄλλους δ' αὖ πάλιν περιοδίζοντας καὶ πεπλανημένους. ἔνιοι δὲ <τῶν παλαιῶν> καὶ τοὺς ἀπὸ διαφερόντων μορίων ἀναπτομένους ἀπ' ἐκείνων ὠνόμαζον, πλευριτικόν τινα πυρετὸν λέγοντες, ἡπατικόν τε καὶ σπληνικόν, ἑτέρους δ' ἀπὸ συμπτώματος κωματώδη, καταφορικόν, ληθαργικόν, φρενιτικόν, ἰκτερικόν. ὑπὲρ ὧν ἁπάντων ἐν ταῖς περὶ αὐτῶν πραγματείαις ἔμαθες. ἐν δὲ τῷ νῦν ἐνεστῶτι λόγῳ τὰ τῆς ἐξηγήσεως αὐτάκρως πεπέρανται. πρὸς γὰρ τῷ τὴν ἐμὴν γνώμην ἀποφήνασθαι καὶ τῶν ἐνδόξων ἐξηγητῶν ἐμνημόνευσα, τοὺς ἄλλους ἅπαντας παραλιπών, ὅσοι περὶ διαφορᾶς πυρετῶν ἀπεφήναντό τι χωρὶς ὑπομνημάτων ἐξηγητικῶν, ἐν οἷς ἐστι καὶ ὁ <Ἀρχιγένης>, ὧν <ἐν> ἑτέρᾳ πραγματείᾳ μνημονεύσω.

12-16 Kudlien *ap.* Barns – Zilliacus 1967, 45, observes that in none of the passages does Galen name together the six categories of fever mentioned in the papyrus, particularly renal fever (l. 13 νεφριτικοῖc). According to Gal., *In Hipp. Epid. VI comment.* XVIIa 883.1-2: ὠνόμαζον γὰρ ἔνιοι τῶν <παλαιῶν> καὶ φρενιτικόν τινα πυρετόν, ὥcπερ ἀμέλει καὶ ληθαργικὸν καὶ πλευριτικὸν καὶ περιπνευμονικόν, in which φρενιτικόν, ληθαργικὸν, and πλευριτικὸν, also mentioned in the papyrus, occur together, he suggests the possibility of changing νεφριτικοῖc into φρενιτικοῖc. However, fever associated with renal diseases is attested *ap.* Steph., *De febr. diff.* 13.33-35; Dsc. IV 23.2. Galen's quotations from the Hippocratic commentary both refer to οἱ παλαιοὶ, who possibly were the subject referred to in the papyrus.

17 ἀναγράφουcιν: The term refers to the use of γραφὴ "medical recipe" with a specific reference to its written form, cf. Gal., *De comp. med. per gen.* XIII 676.2; see also γράφιον in *P.Merton* I 12 (59 AD; MP^3 2407).

Fr. 3

(a)

On both sides fr. 3 seems not directly related to dietetics, possibly suggesting that the fragment belonged to a different section. The surviving text on the front is concerned with the treatment of intestines and stomach suffering from discharges. Therapy seems to be based on the desiccant and invigorating power of a kind of earth, which was generally employed in the preparation of plasters.

1 ἐξα]νθήμα[τα: A possible restoration is [πρὸc ἐξα]νθήμᾳ[τα ἐν κεφαλῇ] κ[αὶ]||[πρὸc ῥευ]ματιζόμε̣[ν]α [τὰ] ἔντερα| [καὶ cτό]μαχον εἰ μὲν δή μετρίωc "For eruptions in the head and for intestines and stomach suffering from discharges", cf. Dsc. II 124.2. Treatment of ἐξανθήματα associated with treatment of the intestines and stomach is attested in a few cases (see *e.g.* Orib., *Coll. med.* X 40), but no earth is mentioned in related remedies.

5 γῇ: As suggested by Kudlien *ap.* Barns – Zilliacus 1967, 45, γῆ Ἐρετριάc, Λημνίη, Καμίη, Cινῶπιc, often mentioned in Aretaeus, *De curat. morb. acut.* II,

might be needed here for their astringent property, cf. Gal., *De simpl. med. temp. ac fac.* XII 187. One of these substances might also be mentioned in fr. 4 *(a)* 2.

6]ματι: Possibly ἀφεψή]ματι "decoction" or καταπλάc]ματι "plaster".

(b)

The text on the back refers to surgical removals (l. 5 ἐξαιρέcειν) in connection with particular pathological conditions. Marganne supposes the author referring to the possibility of blood retention, in which case the patient may not be suitable for excisions and especially discharge of blood (ll. 4-5 μάλιcτα αἵ]|ματος ἀναγωγῇ)[98]. but the thought expressed here is not perfectly clear.

2-3 κατοχὰc το[ῦ]|[μ]ατος: The space would allow either the supplement το[ῦ αἵ-]|[μ]ατος "retention of blood" or το[ῦ πνεύ-]|[μ]ατος "holding one's breath". κατοχὰc το[ῦ πνεύ-]|[μ]ατος matches a common medical expression, whereas κατοχή is not attested in connection to αἷμα. Holding one's breath is recommended in the treatment of various diseases, usually related to the throat or eyes, but it is also regarded as harmful in pathological circumstances related to birth and female diseases (cf. Soranus II 28; Aet. XVI 71). In one case it is included among the prescriptions for the regimen suitable for winter, cf. Orib., *Coll. med.* 41.

4 ἐν: The reading αν in Barns' edition is not confirmed by the examination of the manuscript, where the rounded shape of the ε is clearly visible.

4-5 αἵ]|ματος ἀναγωγῇ: According to several parallels in medical literature, this appears as the most conceivable restoration; περὶ αἵματος ἀναγωγῆc was also the title of one of Erasistratus' works, cf. Gal., *De libr. propr.* XIX 14; *De rat. cur. per ven. sect.* XI 148; *RE* VI col. 348. However, πνεύ-]|ματος ἀναγωγῇ, though far less frequently used, is attested *ap.* Gal., *De comp. med. sec. loc.* XIII 59.11 in combination with βήξ, "cough". Possibly the decision on the matter may be determined by a homogeneous choice in both instances, in ll. 2-3 and 4-5.

The traces after η are consistent with a round letter, c or o, therefore either the genitive ἀναγωγῆc or ὁ ὁμο̣ι̣c is possible.

[98] Marganne 1981, 86f.

Fr. 4

(a)

1 διαίτῃ ἀποκεκα[: There is more than one possibility of articulating the sequence of letters after διαίτῃ, for instance ἀποκεκα[υμέν- "burned off" possibly referred to an ingredient, or ἀποκε[κάρπ- "bear, enjoy a fruit,", but I have not come up with any satisfactory clue to the reconstruction of the whole expression.

Fr. 5

(a)

2 τρόπῳ δια [: Possible supplements are [ὅτῳ δ' ἂν] | τρόπῳ διαλ[είπωσι "if there are intervals in this way", in relation to chronic fever, cf. *e.g.* Gal., *De Hipp. Epid. VI comment.* XVIIa 942; or τρόπῳ διαί[της "kind of regimen", cf. Aet., I 1, Περὶ τῆς πυρετῶν διαγνώσεως καὶ θεραπείας, a chapter on dietetics for feverish patients.

4 ἐκ τετα [: Perhaps τεταρ[ταίου/-ων (*scil.* πυρετός) "quartan fever", classified along with other types of intermittent fevers, particularly the quotidian and tertiary varieties, cf. Hipp., *Epid.* I 3.11; Celsus, III 3.4.1-3; Gal., *De morb. temp.* VII 412; *De diff. febr.* VII 299.3-8. As far as their etiology is concerned, fevers recurring daily (quotidian), every second day (tertian), and every third day (quartan), were regarded as the result, respectively, of too much phlegm, bile, and black bile, cf. Gal., *De diff. febr.* VII 366.8-12. Fever attacks were accompained by a chilling sensation, intense shivering and perspiration. The mention of quartan fever might comply with [χρονί-]|ων καὶ ὀξέω[ν "chronic and severe" in ll. 5-6.

(b)

5 θίδρακι: This is the least common form – which never occurs in medical authors – of θρίδαξ "lettuce (*Lactuca Sativa*)" or θριδακίνη "wild lettuce (*Lactuca Scariola*)". It is frequently included among the foods recommended against fever, cf. Alex. Trall., *De febr.* I 355, 483; Aet. IX 2, 4; Paul, *Epit. med.* II 49.2.

Fr. 6

The condition of the artefact is very fragmentary; when single words are supplemented, they suggest a medical discourse.

(a)

4 διῳδ[ηκ: "swell".

5 πε]πλαδηκότα: In the medical context, the term means "flaccid", generally referring to flesh, particularly to the stomach, cf. Dsc. II 1.1.

(b)

6 ἀ]πομηκυ[ν-: "prolong", presumably referring to the progress of the disease.

Fr. 7

(a)

5-6] περ[ὶ χειρονομὶας. | Ὀρχήσε[ως ... : The identification with Orib., *Coll. med.* VI 30.1 is possible at this point. Oribasius' passage is taken from a chapter by Antyllus on the exercise of muscles and joints involved in various activities such as juggling, swimming, wrestling, jumping or, in this case, shadow-boxing. The heading in the papyrus appears to be arranged in one line and seems to be shorter than Oribasius', where a reference to the author is also made, Περὶ χειρονομίας, ἐκ τοῦ αὐτοῦ λόγου. This feature could point to a text intended for practical use rather than an encyclopaedic compilation, which usually contained references to the authors-sources for further information. Remains of the preceding lines in fr. 7 do not correspond to the previous section in Oribasius' text.

By accepting this identification, it might be supposed that a different topic, not concerned with dietetics, was contained in this codex and also that it was arranged in a format not implying questions and answers. Although a relationship between shadow-boxing and dietetic prescriptions is attested (see Orib., *Coll. med.* VI 38.14-15), it might be more likely regarded as a chapter belonging to another medical discourse, no longer related to feverish patients and copied from a different source.

It is most unfortunate that the fragment is beyond secure recovery. But, as far as it can be reconstructed, it is of great import in so far as it might point to a miscellaneous

codex (cf. *infra* § 4.2). The text on dietetics appears as a treatise arranged according to a homogeneous format and purpose, constituting an independent unit; fr. 7 may be the remains of a separate section responding to other criteria.

Fr. 8

(a)

3 οἶνος: Sweet wine is explicitely not recommended against fever, cf. Gal., *De vict. Hipp. in morb acut.* XV 636; 638; Alex. Trall., *De febr.* I 367.1f. Of all kinds, orange-tawny wine is regarded as free from danger for these kinds of patients, cf. Gal., *In Hipp. de victu acut. comm.* XV 642.5, and watered-down wine as the most suitable, cf. XV 648.5.

4 γάλα κ(αὶ): In more than one case Galen advises against milk for the treatment of feverish patients, see *In Hipp. aph. comm.* 17b.872.6; 17b.876.12f.; cf. also Steph., *In magn. soph. libr. de urin.* XIII 14. By accepting the restorations οἶνος and γάλα, a description of the nourishment unsuitable for fever might conceivably be supposed. A more extensive discussion on the properties of milk and wine occurs in Alex. Trall., *De febr.* I 365.1, 24, two subsequent chapters respectively entitled Περὶ γάλακτος and Περὶ οἴνου.

Fr. 9

(a)

2]ν εικοσι ικ[: The numeral εἴκοσι "twenty" might be contained. Subsequent traces are very faded: they do not suit the ν (*e.g.* εἴκοσιν), and might best be interpreted as ει with a ligature, or an η.

5 κρεῶ[ν: cf. fr. 1 *(a)* 1.

(b)

2 τεττα[: The numeral 'four' seems to be preserved here.

Fr. 10

(a)

3-4] ἅλες πρὸς |] λεπρὸς: Possible ὄνυ]ξ λεπρὸς “scaly fingernails”, cf. Hipp., *Liqu.* I V. According to this parallel, the fragment might be concerned with the property of sea water for treating skin diseases.

(b)

4 μυῶδες: “muscular” is likely.

Frr. 11-18

In the remaining fragments only scanty traces survive. Isolated roots are identifiable and several supplements can be supposed for each of them, but none seems worth printing, given the poor condition of the surface. Only in rare cases is it possible to integrate the text, cf. fr. 16 *(a)* 1 γ]ῥάψαμε[ν, or maybe ἀναγ]ῥάψαμε[ν like in fr. 2 (ii) *(b)* 17.

2.5 Conclusions

The Antinoopolis papyri discussed so far illustrate how medical texts depending on earlier sources could be assembled and reshaped in later adaptations. Their shared trait is the compression of information derived from multiple works, but the manner in which ideas and topics are presented denotes literary ambitions following personal criteria.

They might include examples of traditional medical genres by authors now lost, such as the medical encyclopaedia in *P.Ant.* III 128, and also independent forms not attributable to a fixed model, put together using a combination of prior textual features, like *P.Ant.* III 124: while dealing with topics in dialogue form with questions and answers like the *erôtapokriseis*, in fact, this papyrus is not characterised by the greatest possible concision and simplification of medical discourse that is usually found in medical definitions and catechisms[159].

These manuscripts are also evidence of the literary transmission of previous materials. In particular, the purposeful selection and adaptation of information could coexist along with a transcription subject to accidental omissions and partial misunderstanding in compilations like *P.Ant.* III 128.

Another reason that brings us to the interest of these texts concerns their goal and target readership. Generally speaking, the deliberate juxtaposition of heterogeneous topics in a single codex written by the same hand might be explained by the didactic or pragmatic purpose of the manuscript. *P.Ant.* III 126 and *P.Ant.* III 124 preserve specific devices which reveal the practical functions behind these texts. The former points to a handbook plausibly incorporating the report of personal experience. The latter might offer useful insights into how medical education was acquired in this representative Egyptian community in late Antiquity. Like specialised medical

[159] Some writers preferred to use verse as a factor to increase memorisation of technical contents, or even to address non-technical audience, such as the Greek doctor Servilius Damocrates in early imperial Rome, and the Latin author Quintus Serenus, cf. respectively Samama 2003, 362, and Phillips 1991, 179-186. On medical poems, see also Garzya 1981, 131ff.

treatises, they both provide a wide range of information concerning various aspects of medical knowledge and address an audience of practicing physicians.

CHAPTER THREE

Professional, popular and religious medicine in Antinoopolis

3.1 An investigation into medical pluralism

In the study of the history of ancient medicine, the concept of medical pluralism has gradually replaced the dichotomic representation of 'professional' and 'popular' medicine, and the 'scientific' nature of Greek culture is no longer assumed as the legitimate origin of the Western 'rational' concept of healing in opposition to the other Mediterranean civilisations [160]. Developments in the study of medical anthropology and further results achieved by the comparative approach to medical cultures have significantly contributed to a change in perspective, insomuch as in recent scholarship the debate has focused on the definition of a model for understanding how multiple medical systems interacted in the same society[161].

Scholarly contributions have shown that magic and medicine did not exist as separate entities. Furthermore, they highlight the high level of cross-cultural influence in the ancient world, particularly between Egyptian and Greek medical culture. To this regard, it is extremely difficult to give a full account of what was understood in

[160] See among others van der Eijk 2004, 1-10; Lung 2013, 125ff.; Oberhelman 2013a, 1ff. As far as Egyptian culture is concerned, there is plenty of papyrological evidence, chiefly Ebers and Edwin Smith medical papyri, dating to ca. 1550 and 2600 BC, showing that not only the magical thinking about health and disease but also the idea of a rigorous medical system, sometimes attributed by scholars to the Greeks, go back to Pre-Dynastic times, cf. *e.g. P.Ebers* 52, Ebbell 64 = *Eb.* 296-7, West 602. Clement of Alexandria (ca. 150-211/16) provides information on the possible existence of a scientific encyclopedia written by Toth and dating to the Old Kingdom, which describes in six books the observation, diagnosis, and therapeutics of the human body and its pathologies, cf. Veiga 2009, 4. For the influence of Egyptian medical knowledge on Greek anatomists and surgeons, cf. Westendorf 1992; David 2004, 143.

[161] Healthcare has been described through the intersection between the popular, ecclesiastical and medical sector, which include a large variety of different figures, ranging from physicians recognized by law and belonging to a professional group, to non-specialists approaching healing in a holistic way and laypeople mainly resorting to preventative medicine, cf. Kleinmann 1980, 49f.; Gentilcore 1998, 22f.

ancient time by magic and rationality, and a margin of confusion persists even if one manages to combine various types of evidence into a meaningful picture, and defines a rather congruent image of how various traditions functioned in a single context.

As a consequence, consistency in the use of a proper terminology is no easy matter to be tackled. The power of influencing events by using supernatural forces is generally denominated as magic in modern Western civilizations, but very often one is tempted to project modern ideas and terms onto the various phenomena of the past. The juxtaposition of 'natural' and 'supernatural' is, in fact, not acceptable for defining the Greek conception of the world; though some physicians tried to describe the mechanical processes of disease, nature was regarded as incorporating divine forces and demonic influences, which both played an important role in the medical treatment[162].

Likewise, in defining the subject of my inquiry from an epistemological point of view the distinction between a 'deductive' vs. 'practical' approach and an 'empiric' vs. 'theoretical' one, depending on the process of reasoning applied – even unknowingly – proves to be insufficient.

In this perspective, a magic formula inscribed on an amulet conceived for gaining wealth or personal advantage would based on abstract beliefs, whereas a plaster or a tablet prescribed for the healing power of its ingredients would be built on notions obtained through the sensory experience. It is not reasonable, however, to define ancient therapy as 'empirically rational' in account of the fact that symptoms seem to have been treated as they appeared. Along with a demonic magic based on the notion of a healing power devised by demons, a natural sort of magic is attested, according to which the efficacy of the amulets is ascribed to naturalistic causes[163], and their occult power is attributed to the whole substance of the remedy rather than single ingredients, which could be employed without distinction in ordinary pharmacology[164]. Moreover, the prescription of healing charms implied in some cases a kind of empirical approach depending on the intended use of the patient's

[162] Cf. Lloyd 1979, 49; Furley 1993, 82 n. 9; van der Eijk 2004, 1-10.
[163] See *e.g.* Rufus, Galen, cf. Gager 1999, 221.
[164] Cf. Kieckhefer 1994, 813-836.

suggestion (resulting in what is called 'placebo effect'), rather than a real belief in the efficacy of the amulet itself[165].

Ancient recipe books usually contain a great variety of prescriptions, both magical and non-magical in an always-changing proportion. Though tensions and antagonism existed between different healing systems[166], professional physicians understood the importance of mental states in relation to illness, and sometimes resorted to magic when non-magical medicine proved insufficient, also in order to preserve their social status. The choice between different treatments was dictated by multiple factors, including the nature of the illness, type of practitioner, and not lastly the patient's attitude.

The question of magical medicine eludes a univocal definition of the ancient conception of the 'irrational', and all the options illustrated above must be regarded as defective to some extent. It is important to state that, while sometimes resorting to the term 'scientific' throughout my paper with reference to a medical approach not involving sorcery, this formulation is for convenience only and I do by no means imply the modern concept of science, as there is no science in antiquity if this is to mean knowledge acquired through modern scientific methods.

Byzantine hospitals in conjunction with Christian monasteries have been regarded as a valuable observatory as regards medical pluralism, since they combine extensive professional treatment focused on physical ailments and surgery, with an attention to the spiritual needs of the patients and medical practices involving magical and religious beliefs[167].

In late Antiquity Greek physicians received part of their education in the *xenones*, which gradually spread across the Byzantine world from the 4th and especially 6th and

[165] This statement is supported by the picture given by Alexander of Tralles emphasising the role of bedside experience in the prescription of amulets, cf. Duffy 1984, 23; 25.

[166] Cf. Lloyd 1979, 45f.

[167] Miller 1997.

7th centuries AD[168], usually in connection with the cult of local saints and martyrs. Healing practices documented in Christian sanctuaries attached to the hospitals in Egypt, find their prior expression in the Egyptian temples and offer a good example of this cultural overlapping[169]. The ruins of the monastic infirmary of Apa Jeremias at Saqqârah have been found along with a Coptic collection of medical prescriptions which show a strong reliance on Egyptian medicine[170], and a similar combination of medical traditions is recorded in the papyri found at the monastery of Apa Thomas near Assiut in Southern Egypt[171].

One might suppose that Egyptian and Greek physicians continued to practice their medicine separately to some extent, providing assistance respectively to the indigenous population and the Greek elite, but they have undeniably been influenced and influenced in turn at all levels since the Ptolemaic Period (332-30 BC), when many Greek physicians settled in Egypt and two parallel systems started developing side-by-side, resulting in a long-standing medical intercourse[172].

[168] See *e.g.* the hospitals in Arsinoe, Hermoupolis and Ptolemais, cf. Philipsborn 1961, 338-365. In 5th century a similar institution at Oxyrhynchus included also a prison for thieves, cf. *P.Oxy.* XIX 2238.

[169] Since the third millennium BC, numerous health-care centres adjoined to temples – the 'Houses of Life' – are recorded to have existed in Egypt at Bubastis, Edfu, Amarna and Kom Ombo. Medical teaching was done at these hospital-schools, where a scriptorium, a library, and a collegium of priests-doctors responsible for the protection of the king through magical procedures were accommodated. Theoretical knowledge was transmitted to students by reading and copying texts, while practical skills were presumably passed on in spaces specifically intended for the practical training and equipped with medical instruments, although there is no clear evidence of clinical instruction involving patients, cf. Clement of Alexandria, *Strom.* VI 4,35; 3-37,3; cf David 2004, 138f. See also Ghalioungui 1963, 42; *Lexicon der Ägyptologie* 1980, coll. 954-957; Clarysse 2010, 274-290; Veiga 2009, 37. For ritual healing in ancient Egypt according to the evidence of papyri, cf. Fischer-Elfert 2007, 43-54. For a comparison with mythology and religious practices of the Near East cultures, see West 1971.

[170] Cf. Nutton 2007, 9; 18f.

[171] On the syncretic healing techniques employed by the Christian healers in the monastery of Apa Thomas, cf. Crislip 2005, 33f. The continuity between the ritual healing practices of Egyptian priests and Christian monks in late antique Egypt is attested also by a few magico-medical papyri from Oxyrhynchus, like *P.Oxy*. XI 1384 (VI-VII AD, MP^3 2410, *LDAB* 3237), a papyrus sheet containing three pharmacological recipes with quotes from an apocryphal gospel, cf. Mazza 2007, 437-462.

[172] For an thorough representation of the relationship between medicine and religion in Egypt in late antique and Byzantine Era, with reference to the case of Antinoopolis, cf. Marganne 2008b, 64-69, and 2014, 293-298.

In these respects, Antinoopolis played but a small part in the history of late antique medicine, as it became the seat of a hospital foundation and also a place of magic and ritual healing. What still remains controversial is the extent to which various elements combined together in this particular context.

I would like to address the question of the interaction between Egyptian, Greek and Christian medical traditions using the magico-medical papyri as historical evidence. In spite of the paucity of material records, there is much to be discerned in these texts, as they give a perspective on everyday life introducing an important element of reality. Further sources of information such as archaeological remains, objects found in excavations, and later textual evidences (i.e. the miracle narratives), have been used to better understand the socio-cultural environment. Taken as a whole, this evidence enables us to compose a useful, albeit incomplete picture of the magical medicine in Antinoopolis.

The present survey opens with an overview of the healing practices attested at the sanctuary of St. Collouthus, in order to gain an insight into what elements are held to be important and to establish certain aspects that tend to recur in different traditions[173]. Although this investigation draws attention to some features of the magical and religious medicine in a historical perspective, it must be stated that the main purpose is not the history of these ritual practices. What is under scrutiny here is the way a few particularly relevant elements might be revealing about the context in which these texts functioned.

The rest of the chapter is concerned with the examination of the magico-medical papyri from Antinoopolis. Though there is no archaeological nor textual evidence attesting to a direct connection between these papyri and the sanctuary, the magical approach to healing they described substantially complies with that documented at Collouthus' shrine. As I am interested in the production and use of magical texts in both the medical and socio-cultural environment, I adopted a relatively inclusive approach in the selection of material, taking into consideration not only formularies, i.e. recipes for making charms and spells meant to have been worn on one's body for

[173] Cf. Luijendijk (forthcoming).

protective, beneficial or antagonistic effects[174], but in a broader sense all the texts containing references to magical and extra medical factors apart from their literary genre, including *materia medica* and an astro-botanical treatise. The criteria for this selection consist in identifying typical features found in amulet prescriptions, and quotations or striking parallels with already known magico-medical texts.

So far, the magical content of the Antinoopolis medical papyri has only been marginally examined, and only one part of the magico-medical texts has been counted among these findings, namely *P.Ant.* II 66 and *P.Ant.* III 140[175]. At present, three further texts can be included, which are different examples of medical books according to their formal quality and usage, and enable us to reconsider all the evidence from an overall perspective.

First, I am going to offer the revised edition of *P.Ant.* III 127, a papyrus codex preserving the remains of both an anatomical treatise (fr. 1) and a collection of pharmacological prescriptions (frr. 2-12), which I identified to some extent for the first time. Fr. 3 contains two recipes by Alexander of Tralles concerning the manufacturing of healing charms effective against abdominal diseases, whereas the remaining fragments occasionally show similarity to other prescriptions by Alexander.

Thereafter, I will provide a complete analysis of *P.Ant.* II 66 and *P.Ant.* III 140, *P.Ant.* III 132 and *P.Johnson* + *P.Ant.* III 214. Along with their typological investigation, including quality of the support, style of writing, layout and word

[174] Only this typology of texts has been included among the iatromagical papyri catalogued by Cedopal since 2004, i.e. eighty-seven documents mostly Greek but also Coptic and Latin dating from the first to the seventh century AD. Iatromagical papyri have been commonly divided into two main categories, namely formularies and amulets, cf. Marganne-de Haro Sanchez 2014, 92-116: formularies were normally used as memory-aid or devotional texts, and have to be distinguished from texts properly used as talismans; see lastly de Haro Sanchez 2015. On the definition of this kind of material, *e.g.* 'charms' referring to texts intended for healing and deliverance from evil spirit, and 'spells' referring to texts written to convey supernatural power for antagonistic effect, cf. de Bruyn – Dijkstra 2011, 168; for further discussion on terminology, see Kotansky 1991, 107f.

[175] A wider range of magico-medical papyri from Antinoopolis is taken into account by Marganne 1984, 117 n. 6, who considers five additional codices alongside *P.Ant.* II 66 and *P.Ant.* III 140, i.e. *P.Ant.* II 64, *P.Ant.* III 130, *P.Ant.* III 132, *P.Ant.* III 134, and *P.Ant.* III 135. However, no further information or details have been provided apart from this concise list and, with the exception of *P.Ant.* III 132 (see *infra* § 3.5.3), no elements can be found suggesting the magical nature of such texts.

choice, it is my intention to point out the identity markers, namely significant pieces of evidence which can be entirely or partly associated to a specific tradition.
So far I have talked about structural issues, but I will now to turn to the aim of this study and the cultural-historical contribution of these texts. The present survey raises a few important questions, and in particular:

1) the extent to which the Greek texts reflect the influence of the Egyptian local tradition;
2) the possible relation between magico-medical papyri and the regional cult-centre of Antinoopolis;
3) the usage of these magico-medical books and their belonging to a common assemblage.

Such questions are not easy to resolve. In a context of medical plurality, where healing practices are the result of a mixture of diverse traditions and the religious context is progressively evolving, it can be problematic to isolate individual elements. Some structural patterns of magico-medical texts inevitably derive from a common practice, and the occasional identification of elements ascribable to a specific tradition does not necessarily reveal their cultural provenance, even when one is reasonably confident about the milieu in which a text was produced. This contribution will not definitively answer the questions concerning the Antinoopolis medical environment, but it does provide some evidence that may add to the debate.

3.2 The cult of St. Collouthus

Collouthus was one of the most popular martyrs in Christian Egypt. His intercession was invoked in several Coptic funerary inscriptions (see *PSI* inv. C1, 6th-7th AD)[176], and his fame was essentially based on his medical expertise, owing to his early friendship with the doctor Philip son of the bishop of Hermoupolis[177]. Collouthus was renowned as an *archiatros*, the title defining the public physician[178], and both *ex-votos* and therapeutic oracular tickets found at his shrine testify to his ability to cure ophthalmias[179].

Like several saintly healers during the first four centuries of Christianity, Collouthus was particularly committed to the poor, and practiced his craft for free to assist those in need of cure[180]. As local physician, he earned respect and attracted large followings insomuch as his proper name became extremely common in the country, with equivalent forms existing both in Coptic and Demotic[181].

According to two encomia, one by Phoibammon, bishop of Panopolis (modern-day Achmîn) in the mid 6th century, held at the occasion of the consecration of a new sanctuary of Collouthus in Pnewit, and another by Isaac bishop of Antinoe, dated

[176] Cf. Papaconstantinou 2001, 122-128.

[177] Cf. MS. Pierpont Morgan XXVIII; the correct form of the name of this bishop remains, however, uncertain.

[178] Cf. Till 1951, 8 (*Ch.* 211). Collouthus is styled as ⲁⲣⲭⲓⲁⲧⲣⲟⲥ also in *P.Chassinat*, a Coptic papyrus dated to the 10th century AD: it preserves the recipe of a eye-salve effecting relief in a single day recorded under the name of Collouthus, and attests to an unbroken tradition of science between Pagan and Christian periods in Egypt, cf. Chassinat 1921, 303-304; Andorlini – Marcone 2004, 96. Also the doctors Euprepes and Flavius Phoibammon bore the title of *archiatros* in Antinoopolis: Euprepes had founded a hospital (ξενών) which was inherited by his son Phoibammon and later transferred to the care of Phoibammon's brother John, cf. *P.Cair.Masp.* II 67151-67152, see *infra* § 1.2. From this evidence it appears evident that Collouthus originally had no different role from other professional physicians in town; for the role of the *archiatros*, cf. Nutton 1977, 191-226.

[179] Ophthalmology was practiced in abundance in Egypt and saints were frequently specialized in the treatment of eye diseases which commonly afflicted a large part of the population, including poor sight, strabismus, trachoma, cataracts and conjunctivitis, cf. Lascaratos 2004, 145-152.

[180] Collouthus is quoted as ⲁⲛⲁⲣⲅⲩⲣⲟⲥ in *BKU* I 189, *verso.*

[181] Cf. Pistorius 1939, 21; Faraboschi 1967, 168; Collouthus was commonly referred to as Abu Colta or Abba Kelthi, with the venerative title prefixed to the proper name, cf. also Papaconstantinou 2001, 241f.; for the variations of his name and its possible significance, cf. Crum 1929/30, 323-327.

before 861 AD[182], his martyrdom befell during the Diocletian and Maximinian prosecution of 303-311 AD[183], but the cult of the saint came to an end only several centuries later, approximately at the time of the Arab conquest, when the entire complex dedicated to him was abandoned.

Palladios (*hist. Laus.* 60, early 5th century) is the earliest author referring to the *martyrium* of Collouthus, a memorial building housing the tomb of the saint, and a few documents on papyrus possibly attest to the activity of Theophilus, the bursar of the 'holy and glorious martyr St. Collouthus' (ll. 3-4 Θεοφίλῳ τῷ εὐλαβεστάτῳ οἰκονόμῳ τοῦ ἁγίου καὶ ἐνδ[ό]ξου | μάρ[τυ]ρος ἀββᾶ Κολλούθου), as guarantor of the salaried employees in the *martyrium*[184]. The miracle narrative of the saint provides some information about the staff of the shrine at Antinoopolis, and in particular in the sermon given by bishop Isaac three doctors and a deacon are mentioned[185]. Apparently there was no professional doctor at the site.

After his martyrdom, which probably took place in the region of Oxyrhynchus where he was imprisoned for three years[186], his mortal remains were soon transferred to

[182] For the earlier encomium, which contains several details on the life of St. Collouthus, including his childhood and the circumstances of his birth, see the Coptic MS. Pierpont Morgan XXVIII and the Arabic version in Brit. Mus. Or 4723, cf. the edition and German translation by Till 1935/36, and the text published with an English translation by Reymond – Barns 1973, 23-29; 145-150. For the later sermon, which is enriched with a number of miraculous stories, see two Coptic fragments, Brit. Mus. Coptic Catal. 329 and Paris 129, 76, and Brit. Mus. Or 4723, cf. Thompson 1993, 37-64.

[183] As for the exact date and circumstances of his death, however, all the sources of our information are not concordant. As attested by MS. Pierpont Morgan XXVIII, Collouthus was beheaded under the successor of the Roman governor Arrianus, who was Collouthus' brother in law and attempted to spare his life by keeping him in prison for three years: provided that Arrianus is testified as *praeses* of the Thebais since 301-302, it might be supposed that he was transferred to another post after that period and that the martyrdom took place in 307 AD, cf. Till 1935/36, 177-179. According to Isaac's text, instead, Collouthus was burned alive in front of Arrianus himself, therefore presumably in 304 AD, cf. Reymond-Barns 1973, 149. 304 AD is also the date recorded in the Arabic and Coptic synaxarium (Pashons 25 = May 20th), and in *P.Cair.Masp.* II 67151 (Pashons 23), see Grossmann 2014, 29f.

[184] *P.Turner* 54 (VI AD), see Fournet 2009, 120f. and 129. The collection of miracles of St. Collouthus provide some information about the staff of the shrine at Antinoopolis, which consisted at least of three doctors and a deacon, cf. Thompson 1993, 37-64.

[185] Cf. Thompson 1993, 37-64.

[186] Cf. a note in the Arab *synaxarium*, *P.O.* XVI 412f.

Antinoopolis[187]. It seems likely that since the middle of 6th century the body of the saint was transferred to the village of Pnewit in the vicinity of Panopolis[188], although possibly only some relics were kept in this newly built *martyrium*. What happened with the Collouthus' former shrine in Antinoopolis is not clearly documented. Hagiographical texts do not mention the original location of the memorial church of St. Collouthus at Antinoopolis; according to the archaeological evidence it might be identified with one of the burial caves in the mountains around the town, but it is plausible that at a later stage his mortal remains were placed in a huge basilica recently unearthed in the southern part of Antinoopolis certainly associated with Collouthus[189].

A distinction must be made between the Collouthus' burial chapel located beside his tomb and the *iatreion* where he practiced medicine before his martyrdom without performing miracles. However, no evidence supports the hypothetical coincidence between this *iatreion* and the *xenon* mentioned in the legacy of Flavius Phoibammon[190].

For many years, Antinoe has been the object of research and excavations carried out by an Italian team led by the Papyrological Institute "G. Vitelli". The remains of a funerary chapel were excavated in the eastern area of the ancient town (winter 1935/36), preserving on the southern wall traces of a painting representing Theodosia, the deceased woman interred there, between St. Collouths and the Holy Virgin (4th-5th AD)[191].

[187] One of the Collouthus' miracle tales describes the identification of the burial place of the saint within his church: the exact location is revealed by a holy ointment suddenly pouring from the stone which preserved his remains, cf. Zanetti 2004, mir. 8 Mac. § 69-70.

[188] This information is suggested by Phoibammon's text, cf. Till 1935/36, 175f., and one of the miracles-stories preserved in the Arabic tradition, cf. Zanetti 2004, 101 (mir. 8 Mac.), and supported by some archaeological arguments, cf. Grossmann 2014, 35.

[189] See Grossmann 2010a, 147-165; 2010b 165-181.

[190] According to Phoibammon's text, the *iatreion* of Collouthus, possibly coinciding with the house of his father, might have been placed somewhere outside of Antinoopolis rather than in town, cf. Grossmann 2014, 29.

[191] The painting is dated 4th-5th cent. AD and preserved *in situ*; for its description and further bibliography, see Manfredi 1998, 30f.

The ecclesial compound, on the other hand, was unearthed in 1965/66 in the Northern Necropolis (*kôm* 2)[192], and consisted of a rectangular area surrounded by perimetral walls on all its four sides (Fig. 3). The church of the *martyrium*, which existed before the area was turned into a healing centre[193], was situated in the north-eastern sector. It consisted of a narthex and a three-aisled nave, and below the floor an underground burial chamber has been unearthed[194]. To the south of this small chapel four rooms probably served as incubation chambers[195], whereas a sequence of *klinai* discovered in the open air of the court was probably used for this purpose when the rooms were overcrowded. In recent years, the latest excavations at Antinoopolis led by Pintaudi also found a huge basilican church in the south-side of the town, where some stone-beds devoted to incubation have been discovered[196].

Incubation and ritual healing have been documented since the Middle Kingdom in Egyptian temples[197], such as the temples at Sais and Heliopolis (ca. 1900 BC), Deir el-Medina (1200 BC), and also at the great Serapeion at Saqqârah. In such resting places the patients experienced therapeutic dreams according to a practice which remained substantially identical in the Greek and Christian traditions[198], producing in some cases interesting cultural overlappings[199]. The incubants took their sleep to

[192] For the archaeological excavations of the *kîmân* 1 and 2, cf. Manfredi 1998, 100-101.

[193] It was originally an ordinary burial chapel, in which liturgical services were held only on certain feast days, especially those dedicated to the memory of the deceased during the year, cf. Grossmann 2014, 28.

[194] Manfredi 1998, 23-28.

[195] Archaeological evidence cannot confirm that such cells were provided with *klinai*, even though possible remains of substructure of beds in fired bricks have been found in these buildings, cf. Grossmann 2014, 19-21 and 35-39. However, they still can be considered as sleeping places for the incubants by assuming that patients slept on mats laid out upon the floor whose traces are no longer detectable. It is known that the poor incubants lay directly on the floor, while wealthier pilgrims slept in beds, cf. Caseau 2007, 643.

[196] Grossmann 2014, 38.

[197] For the problematic definition of incubation, cf. Wacht 1998, 180; Canetti 2010, 149-180.

[198] Cf. *e.g.* Horstmanshoff 2004, 325-341.

[199] An illustrative example is provided by the cult of Imhotep-Asclepius at the Asclepieion of Memphis. In *P.Oxy.* XI 1380 (2nd AD; MP^3 2749, *LDAB* 4898), the priest-architect Imhotep, identified by Greeks with Asclepius, asked the patient for the fulfilment of the divine obligation of the composition in return for healing, with the intention of propagating the cult of Imhotep-Asclepius among the Greek-speaking population in Egypt, cf. Andorlini (forthcoming). See also *P.Cair.Zen.* I 59034 (257 BC). About Asclepius and temple medicine, see *e.g.* Horstmanshoff 2004, 325-341.

encounter divine healers, i.e. the Greek god of medicine, the goddess Isis[200], or later the Christian saints, during the nights spent inside the church or in a sacred place. In several instances, the miraculous healing was immediately obtained during the dream, but generally the dream-vision only had an annunciatory function[201].

The original *martyrium* was also equipped with a bathing complex in the sanctuary court. The remains of stone basins reserved for this purpose have been recovered right in front of the church[202], and in more than one case Collouthus' miracles refer to the possibility for the patients to be healed by drinking holy water or through ritual cleansing.

Use of holy water, which was regarded as effective against a large variety of serious illnesses, has a long tradition in Egypt and is attested by archaeological evidence in the sanatoria temples since the pharaonic period. The Temple of Hathor at Denderah housed an important hydrotherapy centre provided with healing statues and stone tanks filled with the water of the nearby Sacred Lake[203], and ritual immersions in holy water were practiced at the church of Apa Phoibammon in Thebes, according to a few Coptic documentary papyri[204]. Also of importance is the Temple of Hatshepsut at Deir el-Bahri in the 2nd century AD, where numerous graffiti on the walls dedicated both to Asclepius and Amenhotep son of Hapu, a New Kingdom sage (ca. 1450 BC)

[200] According to the Egyptian belief, Isis gives aid for several diseases by standing above the sick in their dreams, cf. Diodorus Siculus I 25.5-6: κατὰ γὰρ τοὺς ὕπνους ἐφισταμένην διδόναι τοῖς κάμνουσι βοηθήματα πρὸς τὰς νόσους, καὶ τοὺς ὑπακούσαντας αὐτῇ παραδόξως ὑγιάζεσθαι· καὶ πολλοὺς μὲν ὑπὸ τῶν ἰατρῶν διὰ τὴν δυσκολίαν τοῦ νοσήματος ἀπελπισθέντας ὑπὸ ταύτης σώζεσθαι, συχνοὺς δὲ παντελῶς πηρωθέντας τὰς ὁράσεις ἤ τινα τῶν ἄλλων μερῶν τοῦ σώματος, ὅταν πρὸς ταύτην τὴν θεὸν καταφύγωσιν, εἰς τὴν προϋπάρξασαν ἀποκαθίστασθαι τάξιν.

[201] Among the most renowned incubation saints of the Byzantine Era are the doctor-saints Cosmas and Damian performing medicine at the Kosmedion in Constantinople, where a list of incubation miracles is preserved (cf. Csepregi 2002, 89-122); St. Artemios at Constantinople (cf. Crisafulli – Nesbitt – Haldon 1997); St. Thecla at Seleucia and Aegae (Dragon 1978); St. John and Cyrus at Menoutis (cf. Fernandez Marcos 1975). For the healing dreams in Western hagiography, cf. Klaniczay 2009, 37-64. For dreams in antiquity, the bibliography is huge, cf. *e.g.* Walde 2001, Harris 2009, see extensively Oberhelman 2013b, 22. For the interpretation of religious dreams, cf. Miller 1994.

[202] A horizontal layer of grey lime mortar sunk into the ground, i.e. the original bottom of a circular basin, and a number of small broken glass vessels have been found in the area of the church, cf. Donadoni 1964, 286-289; Fournet 2009, 130f.; Delattre 2010, 174; Grossmann 2014, 16f.

[203] The temple was discovered by Baraize and later identified by Daumas, cf. Daumas 1957, 35-37. For the magical healing statues in Egyptian temples, cf. also Kákosy 1987, 171-186; Satzinger 1987, 189-204.

[204] Cf. *KRU* 91 and *KRU* 104, see Grossmann 2014, 38 n. 136.

have been preserved[205]. Ritual cleansing, which originated in Egyptian culture, also characterised several Greek healing sanctuaries, such as those at Epidaurus, Cos, and Pergamum.

In addition, the sanctuary served as an oracle centre attesting to a practice of divination well-documented in Byzantine Egypt and conceptualized according to a model of local traditions[206]. In and around the shrine recovered in the northern necropolis, more than two hundred oracular tickets, only partially edited, have been found. They are concerned with business, travel and especially health, and were written both in Greek and Coptic on small pieces of papyrus folded and tied up with a thin thread[207]. They are dated between 6th and 7th AD, and the arrangement of the text follows a common pattern kept in use up to the Christian Era which consists of three main sections, namely the invocation of God by means of the saint; the request introduced by fixed formulas; and a conclusive ritual phrase. The same request was formulated twice on different pieces of papyrus, one with a positive and the other with a negative answer. The positive one usually contained the Greek word συμφέρον, whereas blank tickets found at the site probably represented the negative response to orally asked questions[208]. Devotees received back the correct portion of query selected by the local priests through a procedure still unknown to us[209].

3.3 The miracle narratives

A further important source of information for the healing practices at Collouthus' shrine is the miracle narrative of the saint. Numerous miracle tales have been recounted in both Coptic and Arabic manuscripts[210]: they include four miracles

[205] The temple was placed on the west bank of the Nile across from Thebes; cf. Halioua – Ziskind 2005, 30; David 2004, 139f.

[206] See Papacostantinou 1994, 281-286; Husson 1997, 482-489; Lang 2013, 46ff.

[207] Cf. Chassinat 1921, 303-304; Donadoni 1954, 183-186; Donadoni 1964, 286f.; Husson 1977, 482-489; Papini 1985, 245-256 and 1998, 393-401; Del Francia Barocas 1998, 86; Delattre 2008, 152-154; Delattre is preparing the edition of the remaining unpublished oracular texts from Antinoe.

[208] See Delattre 2010, 173.

[209] Cf. Manfredi 1998, 100f.; Grossmann 2014, 40f.

[210] For the Coptic miracles, see Giorgi 1793, 17-27; Till 1935/36, 168-181 and Devos 1981a, 289-290, for the edition of two additional miracles referred to in Copt. Ms. Paris.129, ll. 21-25; for the

contained in the last section of the first encomium by Isaac bishop of Antinoe; twelve miracle accounts only partly attested in Coptic fragments (15th AD); the miracle of the paralytic and the prostitute, exclusively transmitted in Coptic[211]; and four further tales (the miracles at Pnewit) preserved in the second encomium by Phoibammon. It cannot not be excluded, however, that other miracles were contained in the second encomium by Isaac or the first by Phoibammon regrettably lost to us.

These texts are concerned with the miraculous healing of diverse kinds of diseases, i.e. wounds, dropsy, paralysis, demonic possession and especially blindness, mostly obtained through incubation[212]. Such legendary material is in conformity with the anatomical *ex-votos* recovered inside the ruins of the church consecrated to Collouthus, originally fixed on the walls and left by patients as offerings out of gratitude or in hope of being healed[213]. They consisted of human figures or single bodily parts embossed on bronze or copper plates. In one case, the silver breasts found at this shrine exactly correspond to the offering of a woman having expelled by the saint the demon erepted in her breasts described in one of these texts[214]. Charms and *phylacteria* were also discovered in the rubble, attesting to an enduring practice of magical activities well-documented in the miracle tales.

In two accounts, Collouthus is directly responsible for the healing treatment of the patients, by removing the bandage from a gangrenous leg and applying an eye-salve[215]. On the contrary, the remaining texts contain no reference to a therapeutic or surgical intervention by the martyr-physician. The saint could bring about healing by pronouncing words or by touching the suffering body-part. In a few cases, the healing is administered by other entities according to the precise instructions of the saint, i.e.

Arabic texts, cf. Bīšūy 1997; Zanetti 2004, 43-109; for the second encomium of Phoibammon, see also Youssef 2011, 123-171.

[211] Devos 1981b, 363-379.

[212] In a few cases, however, the incubation does not occur; the miraculous healing simply derives from the invocation of the saint at his shrine and the touching of the silver cross See *e.g.* Zanetti 2004, mir. 3 Mac. § 23-36; mir. 12 Mac. § 81-85, and mir. 10 Mac. § 75-76.

[213] For the archaeological excavations of the *kîmân* 1 and 2 in 1966, cf. Manfredi 1998, 100-101. For images of *ex-votos*, see Pintaudi 2008, 64 and 65.

[214] Devos 1981a, 258-301; Zanetti 1996, 11-24; 2004, 101.

[215] See respectively Zanetti 2004, mir. 1 Mac. § 4-14 + 15; and mir. 15 Mac. § 105-114.

a scorpion removing a tick from a patient's body, or a woman applying her breast milk to cure of a blind person[216].

Unlike other dream narratives which provide concrete information about therapies and staffing in Byzantine hospitals, the miracles of St. Collouthus seem not to be related to the practice of professional physicians, and no information can be obtained about a possible connection with the local *xenon*.

The dream patterns in Christian miracle tales usually reflect the patient-doctor relationship during daily visits in the hospitals, and sometimes healing dreams take place in a hospital connected with the sanctuary, such as the Kosmidion located outside the walls of Constantinople and dedicated the cult of the Saints Cosmas and Damian. Sick patients in the *xenon* regarded as incurable by the hospital physicians invoked the intercession of the *anargyroi* Kosmas and Damian, who appeared in their dreams and operate them under the guidance of Saint Sampson[217]. Physicians on duty in the hospital (*archiatroi* or *hypourgoi*) often supported the healing process by applying medicines in accordance with the specific instructions by the saint-doctors they received in turn in their dreams[218]. From this evidence it appears clear that patients could experience healing dreams also outside an incubatory context while being treated at the hospital under the supervision of professional doctors, and even at their domicile in late medieval times[219]. Among the miracles attributed to Collouthus no such example has been found. From the archaeological data we have no evidence that their medical or practical assistance to the clients was supplied within the sanctuary in Antinoopolis, and it is plausible to suppose that the huge community

[216] Zanetti 2004, mir. 4 Mac. § 37-43, and mir. 5 Mac. § 44-55.

[217] For the miracle of Irene, fallen ill with dropsy, see *Miracles of Sampson*, Mignes 1857-1877 coll. 305-308. This dream narrative offers some information about the daily service of the hospital physicians, both senior and younger doctors, cf. Miller 2013, 209f. The increasingly frequent representation of the Christian saints as skilful surgeons and expert doctors in the Byzantine miracle narratives has been regarded as the result of a socio-historical change in the 6th-7th cent. AD, related to the emergence of the hospital as a new cultural experience for sick people, cf. Csepregi 2012, 131-146.

[218] See the miracles of St. Artemios, *Miracle Tale* 22, cf. Crisafulli – Nesbitt – Haldon 1997, 130-137.

[219] The growing number of distance miracles in the Medieval Era coincides with the eclipse of the healing shrines, cf. Krötzl 2000, 557-576.

attracted by the cult of the saint came to the sanctuary benefiting from the medical facilities of the town[220].

Besides miraculous healings, these texts also describe various situations related to the daily life at the sanctuary. They include, for example, the conversion of pagans to Christianity[221], the theft of ritual tools and *ex-votos*[222], false claims against a deacon[223], and the recovery of the burial place of the saint[224].

Finally, the miracles of St. Collouthus provide some information about the socio-historical context, and show that several notables and wealthy people – belonging to the local elite of Antinoopolis or coming from the neighbouring areas, in particular the region of Ashmunein – visited the sanctuary, demonstrating that it was not an institution exclusively committed to the poor.

[220] Family members and servants were in charge of the needs and personal care of the sick (daily food, washing, change of clothes), and were normally present in the sanctuary, cf. Till 1935/36, 179. Pilgrims and their escorts, along with regular visitors and members of the clergy made the sanctuaries extremely busy places. For practical aspects of everyday life at the Christian healing sanctuaries, i.e. transportation, catering, lodgings, cf. Casau 2007, 625-654.

[221] Bīšūy 1997, 69-74.

[222] Zanetti 2004, mir. 7 Mac. § 67-68; mir. 11 Mac. § 77-80; mir. 13 Mac. § 86-87.

[223] Bīšūy 1997, 86-90.

[224] Zanetti 2004, mir. 8 Mac. § 69-70.

3.4 Iatromagical prescriptions in *P.Ant.* III 127

P.Ant. III 127 (*a*) ↔, (*b*) ↕ (Oxford, Sackler Library, Papyrology Rooms, P.Ant. 127)	fr. **1** 12,6 × 10.5 cm; fr. **2** 7.2 × 5 cm; fr. **3** 8 × 6.3 cm; fr. **4** 12.2 × 4.2 cm; fr. **5** 6.2 × 6.3 cm; fr. **6** 4.1 × 7 cm; fr. **7** 5.8 × 3.2 cm; fr. **8** 4.8 × 5 cm; fr. **9** 2.3 × 1.2 cm; fr. **10** 2.3 × 2.2 cm; fr. **11** 1.1 × 3.3 cm; fr. **12** 1.2 × 1.2 cm	7th AD
MP^3 2362.4; *LDAB* 6586		Antinoopolis

The remnants of *P.Ant.* III **127**[165] consist of 12 fragments of a papyrus codex currently preserved at the Sackler Library in Oxford.

The artefact has been assigned on palaeographical grounds to the 7th century AD, and has been regarded as an anonymous compilation of Byzantine date. Written all in the same sloping book hand, the fragments can be distinguished by their different content: fr. 1 is concerned with anatomy, while the remaining ones deal with pharmacology[166]. On inspecting the manuscript, I found that fr. 3 preserves on both sides the remains of two prescriptions quoted by Alexander of Tralles, and new readings have been suggested by this identification[167].

Different contents appear to be associated to a disparity in the width of the columns. As far as can be determined, there are almost twice as many letters per line in fr. 1 *(a)* + *(b)* as in other fragments, especially frr. 2 and 3. Fr. 1 matches the layout of the prescriptions usually arranged in a one-column format (the columns with title and ingredients are usually narrower than the page width), whereas the layout of the codex in the pharmacological section displays a double-column format (e.g. Turner, *GMAW*^{2}, no. 71, *P.Oxy*. III 411 'Life of Alcibiades', 5th AD). Such an arrangement

[165] Barns – Zilliacus 1967, 54-58; http://litpap.info/dclp/65340.
[166] Kudlien *ap.* Barns – Zilliacus 1967, 57.
[167] Corazza 2018, 85-87.

seems to suggest that the fragments belonged to different quires and that the codex, entirely copied in the same handwriting, had a miscellaneous content (see *infra* § 4.2).

A few lectional signs survive on the papyrus and the pharmacological text appears fairly heavily articulated, with recipes and sense units divided by the dicolon combined with *paragraphos* (fr. 2 *(a)* 3, 7), and horizontal strokes in the blank space between lines (fr. 2 *(a)* 3-4; *(b)* 1-2, 4-5; fr. 4 *(a)* 1; fr. 5 *(b)* 3-4; fr. 6 *(a)* 2-3; fr. 10 *(a)* 1). Aside from the usual symbols for measures, abbreviations are freely used. Sinusoid is reserved for suppression of -αι in fr. 1 *(a)* 10, and *(b)* 6, whereas ⁄⁄· replaces εἰcὶ or its last two letters (fr. 1 *(a)* 8, 9); in a few cases, a letter is written above, or above and to the left, of the previous in fr. 1 *(a)* 8, 10; *(b)* 8; fr. 2 *(b)* 5; fr. 10 *(a)* 1. The text is without accents and breathings, although diairesis is used twice (fr. 1 *(a)* 5; fr. 2 *(a)* 3).

Fr. 1

(a) ↔

[. . . . .]ημα[*

[. . . .] επι [

[. . . .] μιαζ [

[. . . .] ειμηδ̣ [

εισθεν ἰδοὺ γὰρ ἡ α[

ἔχει ἕτερο̣ν ἐπεὶ χε[ ]ειμα κ(αὶ) λέγ̣(ο)υ̣[cιν

αρχη ἐκπεφυκότα [ἔ]χει· οἱ δὲ ὅρχ[εις

δηλονότ(ι) οὐκ εἰ(cὶν) ἀρχ[ή] φαcὶν γὰρ ε[cπερ-]

ματικὰ ἀγγεῖα ἀπ[ὸ] φλεβῶν (εἰcὶ) [

ων λέγομεν κ(αὶ) πρὸc τ̣(ο)ῦτο οὕτωc ε[

φαcὶν ἐν ἑτέρᾳ πραγματίᾳ ὅτι [

1 [ ]ημ̣α Barns **2** [ ]. Last letter α, λ, or χ Barns **3** [ ]. Barns **4** [ ]. Barns **5** ϊδου pap. **6** λεγ¯υ̣[pap. λέγ̣ο(ν)[ται Barns **8** ο̆ο̆κει·// **9** ·// The last two letters may be γ̣ϱ, or an abbreviation Barns **10** κsπϱοϲ̣τυτοοτυωc

(b) ↕

] [

] [

] [

] [

5] ε [ ] [

]τενος γίγ̣νητ(αι) τεκ [

]ε τὴν δέϲιν [τ(ο)ῦ] ὀϲτέου κ(αὶ) π̣οιε̣ῖ τὴν

]αν. τὴν δὲ ὀνομαϲίαν ζητ(ο)υμ(έν)ου τῶν

] λέγετε δι(ὰ) τὸ [μ]ύειν πϱὸϲ αὐτόν ωc

10 νε]ύϱων ὡϲ ἀ[πὸ] τ(ο)ῦ νεύειν πϱὸϲ αὐτό[ν

οὐ]κ ἐν τῷ μυ[ ] ερ̣γ̣ μῦc ταυ [

]χει τάδε α[ ] π α. οὗτ̣ο̣ϲ φ̣α̣ϲ[

6 -τs; after χ: α? Barns **8** ζητμο̆ο̆ **9** *l.* λέγεται? Barns

Fr. 2

(a) ↔

]ϱ.[. . . . .]. cαc επι

]τυω[ ] ταῖc επι

] αccα [ ] ϊα ιν : –

——— – ——— – ———

ξηϱίον κεφα-

5 λικὸν ϱ̣ευμα-

τιζομένηc

[κε]φαλῆc : —

] ουμᾳ̣[

1 Second letter: γ, η, ι, ϰ, λ or υ? before cαc: ω possible: *e.g.* ῥ̣ύ̣[cιν cτεγν]ώcαc Barns **1-2** ἐπι|π]τύω[**2** Before ταιc: υ possible Barns **3** First letter: γ, ι, or π?; after ϊα ed.pr. (or βα) apparently ο, but possibly ϱ with no trace of tail remaining Barns poss. βα, βαϱ<ε>ῖν ? **8** First letter: probably μ, ν or ϰ Barns

(b) ↕

αγε [

τϱοχ[ίϲϰ]οc δυϲ- *sim.* Alex.Trall., *Therap.*, II 427.3

εντεϱ[ιϰ]ὸc Ιω-

ανν(ο)υ Λυ̣ϰ̣ίου

5 χάϱτ(ο)υ ϰεϰαυμ(ένου) (δϱαχμ.) [*sim.* II 427.14ff.

ὑ̣ποϰυ̣ϲ̣τ̣[ίδοc

ἀϲβέ[cτου

[ ] [

3 Ï pap. **4** λ<ο>υ̣ϰ̣ιου ? **5** χαϱ̆τ̆ ϰεϰαυμ̣ pap. ϰεϰαυμν̆, ϰεϰαυμ(ένο)υ Barns **6** ϋ pap. υποϰᾳ̣[Barns, ὑ̣ποϰυ̣ϲ̣τ̣[ίδοc Andorlini **7** αϲβε[cτ Barns, ἀϲβέ[cτου Andorlini

Fr. 3

(a) ↔

Alex. Trall., *Therap.*, II 377.22-24

[καὶ τούτο]υ πολ-

[λ]ὴν [ἔϲχ]ον πεῖ-

[ϱ]αν κα[ὶ] ἄτοπον

ἐνόμ{ε}ιϲα μὴ πα-

5 ϱ̣αδοῦναι τηλι-

[κ]αύτην ἀντιπα-

[θῶc ἔχο]υcαν πρὸc

[τὸ πάθοc δ]ύνα[μιν.

1]υπολ Barns **2** ηγ [̣]̣ ν πει; after lacuna α or ο Barns **3**]αν κα[τ]α τοπον Barns **4** γ]ενομενα Barns **5**] αδοῦναι; First letter may be ν Barns **7**] cα η προ̣[Barns **8**]ημα[Barns

(b) ↕

Alex.Trall., *Therap.*, II 375.21f.

περ[ίαπτον ἀδι-

άπτω[τον, οὗ καὶ

ἡμεῖ[c ἔc]χομ[εν

πεῖρα[ν] καὶ πά[ν-]

τεc δὲ οἱ ὀλίγο[υ

δεῖν ἄριστοι τ[ῶν

ἰατρῶν εὐδ[οκί-]

μηcα[ν

---

1 περ[Barns **2** απτ [; Last letter: ο or ω Barns **3** ημει̣[̣]χομ[Barns **4** πειρα[̣] και π [; Last letter: α or ο Barns **5** ολιγο[Barns Alex. Trall.: δὲ ὀλίγου **6** [; Last letter: η or ν Barns **7** ϊατρων ευ̣ [Barns; ϊ pap. **8** μηcα[Barns

Fr. 4

(a) ↔ *(b)* ↕

⏑ – ⏑ – ⏑ —

πρὸc ἧπαρ

(b) Blank Barns

Fr. 5

(a) ↔

```
---------------------------
]. . . . ϰ.δ.
 ]. cϰε
 ]c  Γο ς̄
]    Γο θ
]c   Γο ϰδ
 ] .ιον ε
 ]δε
 ]ηcϰετ(αι)
 ] λιθοc
 ]c ξεc
  ]αι
 ] .
---------------------------
```

(b) ↕

```
---------------------------
 . . [
βανν[
 τ[
Κο(λλύ̄ρ̄ιον) ϰύϰνο̣[c
βα [
πρ[òc ῥεύματα
μετ̣[
του[
χυ[λοῦ
---------------------------
```

(a) **8** τs pap. **12** Not indicated in ed. pr.

(b) **4** Κ pap. κυκνο[Barns, κύκνο̣[c Andorlini **6** πρ[Barns

Fr. 6

(a) ↔

```
μελ̣[
δαμ[
 ξη[ρ
 τη[
 δ. [
 [
```

(b) ↕

```
]υ cπέρ-
[ματος  ] στα-
[φυλίνου  ἀ]μυγ-
[δαλ  ]ϰρω(ν)
]οcι γ
]μ̣υρ
```

----------] ϱ(ο)υ

(a) **2** μέλ̣[ιτος ? **3** καϱ]]δαμ[ώμου ? **4** ξη[ϱίον ? Barns **5** δ̣. [Barns
(b) **3-4**]κϱω pap. **6** ϱ̆ pap.

Fr. 7

(a) ↔ *(b)* ↕

τ . . . . . .[
καὶ βϱέχεται[
ἀποσίϱου τα̣. [
ακος καὶ λι̣. [

]̣. ᾳ̣ν κᾳ̣ὶ μ̣ετ̣ᾳ̣[
]̣την μίαν ἡμέϱᾳ̣[ν
]̣. (ουν)ται ὁμοῦ το *vacat*
]πιον καὶ ηc[

(a) **3** ἀποσίϱου (ἀποσείϱου) Marganne; ἀπὸ σίϱου Barns **4** ̣. ακος και λι ̣. [; First letter: μ or ν?; last: probably α Barns
(b) **3** First letter: κ? Barns

Fr. 8

(a) ↔ *(b)* ↕

λί]θου cχιcτοῦ [
κε]καυμέν̣[ο]υ[
]υc [

]υ cυν λια[
ἡμ]ἑϱ̣ας δύ[ο
] [

(a) **1**]θου Barns **3** First letter: ω?; second: ο or ϱ
(b) **2**]ἑϱ̣ας δυ[Barns

Fr. 9

(a) ↔ *(b)* ↕

]ο .ν ξ[	] εκπιν[
κ]ᾳὶ cτελλ[	]κυδακα[
]ειραcα[	]τετο[
] ω[	] [

(a) **2**]. ιcτελλ[; First letter: α, δ, or λ Barns **4** First letter: ε or c

Fr. 10

(a) ↔ *(b)* ↕

	cτυπ[
] χαλκ(ο)ῦ	τιαc [
]κα Γο α	μ[
]	[

(a) **1** χαλκ̆

Fr. 11

(a) ↔ *(b)* ↕

] ιθ’ ο[	]μερ[
]λαμ[	]θ’ ο [
] [	] [

Fr. 12

(a) ↔ *(b)* ↕

απο[	]
κα[	] πα
ε [	] ο
----------	]ω

Translation

Fr. 1

(a) … See in fact ... has the other argument (?) also saying … the source they grow out of in that place (?); the testicles … clearly are not the source. They say in fact that the seminal vessels come (?) from the veins. … that is also why we refer to them in this way … they say in another treatise that …

(b) … becomes … the ligament of bones and produces … The name of what is being investigated … you call the muscles (?) from the fact that they close on themselves, as the nerves from the fact that they bend on themselves … not in the muscle (?) … muscle … these … this …

Fr. 2

(a) … Desiccative powder for the head when the head suffers from a flux. …

(b) … Tablet for dysentery of Ioannes Lucius. Of burned papyrus drachmas… of hypocist … of unslaked lime …

Fr. 3

(a) … and I had a great experience with this, and I considered it inappropriate not to hand down such a thing, which has a power against the illness …

(b) Infallible charm, whose effectiveness we experienced, which almost all the best physicians highly regard …

Fr. 4

(a) For the liver.

Fr. 5

(a) … 24 … ounces 6 … ounces 9 … ounces 24 …

(b) … collyrium *Cycnus* ...

Fr. 6

(a) … powder …

(b) … of seed … of carrot (?), of bitter almonds … 3 …

Fr. 7

(a) ... and gets wet ... filtere (?) ... storax and incense (?)

(b) ... and ... and with ... one day ... mix/at once ... fat and ...

Fr. 8

(a) … of schist … of burned …

(b) … with … two days …

Fr. 10

(a) ... of copper … ounce 1 …

Commentary

Fr. 1

(a)

The key words of fr. 1 *(a)* are the σπερματικὰ ἀγγεῖα (i.e. the 'seminal vessels' that grow from the 'testicles' or 'ovaries', i.e. ὄρχεις). Commenting on *P.Ant.* 127 Kudlien pointed out the dependence on the work of Meletius the Monk (9th cent. AD) in his *On the Constitution of Man* (*Anecdota Graeca*, Cramer 1836, 111), a work which has been shown to resemble Soranus to some extent (see *infra*). Indeed, the tradition concerning the 'seminal vessels' goes back to Rufus (1st AD), *Onom*. 184-

185 τὰ δὲ cπερματικὰ ἀγγεῖα ἔcτι μὲν τέccαρα, δύο μὲν κιρcοειδῆ, δύο δὲ ἀδενοειδῆ· ἐκαλοῦντο δὲ καὶ γόνιμοι φλέβες, and even before to the Hellenistic physician Herophilus (cf. Gal., *De sem.* I 16). Fr. 1 *(a)* apparently contains a doxographical section where the theories of other medical authors are recorded (see the repeated forms of λέγω and φημί), pointing to a later medical compilation. Cf. also PSI II 117 *recto* (4th AD; MP^3 1483, *LDAB* 3965).

1 The suffix -ημα is very productive in the medical vocabulary, e.g. ἄλγημα, ἀπόcτημα, ἐμπύημα, νόcημα, οἴδημα. However, an adverbial form like παραχρῆμα cannot be excluded.

5–6 ἰδοὺ γὰρ ἡ α[, sc. ἡ ἀ[ρχή, "the source of the nerves". Also possible is ἡ ἀ[ρτηρία, a term applied to the bodily tubes or vessels, analogous to νεῦρον, i.e. "tendon, ligament" as well as "nerve". The explicative force of ἰδοὺ γάρ ("look at with attention, perceive by sight") is common in the usage of medical writers and apparently refers to a preceding statement (cf. *e.g.* Alex. Trall., *Therap*. II 583, 11 ἰδοὺ γὰρ λέγω). For ἐκπεφυκότα and ἀρχή, see Gal., *De plac. Hipp. et Plat*. I 6.16–17 ὡc ἔμπροcθεν ἐδήλωca, τὰ μὲν ἐξ ἐγκεφάλου τῶν νεύρων ἄντικρυc *ἐκπεφυκότα*, τὰ δὲ ἐκ τοῦ νωτιαίου μυελοῦ, νωτιαῖοc δὲ αὐτὸc ἐξ ἐγκεφάλου. βέλτιον οὖν ἦν οὔθ' ἁπλῶc *ἀρχὴν τῶν νεύρων* ἀποφήνacθαι τὴν καρδίαν, ὅπερ Ἀριcτοτέληc ἐποίηcεν.

If the whole passage concerns the nerves, the adjective ἕτερον might refer to another argument dealing with the source of nerves.

6 The reading λέγ̣(ο)υ̣[cιν seems more likely than the alternative λέγο̣(ν)[ται since the abbreviation of *ny* is normally used only a the end of the line to keep the column width consistent. Moreover, the abbreviation of the diphthong ου frequently occurs in this papyrus, cf. fr. 1*(a)* 10 τ(ο)ῦ̣το, *(b)* 7 τ̣(ο)ῦ; fr. 2*(b)* 2-3 Ιω|άνν(ο)υ, 5 χάρτ(ο)υ; fr. 6*(b)* 7]. ρ(ο)υ; fr. 10*(a)* 1 χαλκ(ο)ῦ. I owe this suggestion to Fabian Reiter.

7 The technical anatomical verb ἐκφύω bears the meaning of "generate", and can refer to nerves, vessels, or bones.

A possible supplement is οἱ δὲ ὄρχεις [τῶν γυναικῶν. For the position of the

ὄρχεις, cf. Orib., *Coll. med*. 9.27 ὅτι καὶ <οἱ> ὄρχεις <καὶ> τὰ σπερματικὰ ἀγγεῖα μικρὰ τυγχάνει· παράκεινται γὰρ οἱ ὄρχεις ἐπ'αὐτῶν τῷ πυθμένι τῶν ὑστερῶν ἐν τοῖς κατὰ τὸ ἐπιγάστριον χωρίοις.

8-9 According to Barns, a conceivable restoration at the end of l. 8 might be φασὶν γὰρ ἔ[νιοι ὡς τὰ σπερ]/ματικὰ; a verb meaning 'depend, consist of', or 'derive, come', is possibly contained in the end of l. 9. For the 'seminal vessels' cf. Mel., *De nat. hom.* III 113.23ff. Cramer τὰ σπερματικὰ τοίνυν ἀγγεῖα, φλέβεις εἰσὶν, ἀπὸ τῆς κοίλης φλεβὸς ἐρχόμεναι, ἥτις ἐπίκειται τῇ ῥάχι, ἄνωθεν ἕως κάτω, and Ps.-Gal., *De aff. ren*., XIX 655.3-4: ἔρχεται ἐπὶ τοὺς ὄρχεις καὶ εἰς τὰ σπερματικὰ ἀγγεῖα, and Gal., *De uteri dissect*. II 894.4-5: ὁμοίως δὲ καὶ πρὸς ὄρχεις καὶ τὰ ἀγγεῖα τὰ σπερματικὰ συμφύεσθαι λέγοιτ' ἄν. Galen's description of the ovaries seems to be dependent on Herophilus (T107 von Staden). The term ὄρχις, especially when referring to female genitalia, means "ovaries".

10 *E.g*. ὑπὲρ]| ὧν λέγομεν κτλ.

11 The expression ἐν ἑτέρᾳ πραγματείᾳ is common in Galen when he refers to another treatise or work of his own, cf. Gal., *In Hipp. Progn. comment*. I 4: ἐξετάσαι δὲ αὖθις ἐπὶ σχολῆς πλείονος ἐν ἑτέρᾳ πραγματείᾳ καὶ διασκέψασθαι περὶ τῶν ὑπὸ Ἡροφίλου πρὸς τὸ Προγνωστικὸν Ἱπποκράτους ἀντειρημένων, "And examine and scrutinize again in another treatise the things said by Herophilus in opposition to Hippocrates' *Prognostic*". The plural λέγομεν in l. 10, and φασὶν in l. 11, might refer to a solid group or a specific doctrine, and the medical discussion could be contextualized in a scholarly debate.

(b)

Fr. **1** side ↕ has been compared by Kudlien with Meletius, *De natura hominis*, 59.17-25[168], a passage referring to the definition of a few medical terms primarily involving

[168] Mel., *De nat. hom.*, 59.17-25: μῦες δὲ λέγονται παρὰ τὸ μύειν ἐν ταῖς οἰκείαις ἐνεργείαις· συστελλόμενοι γὰρ, καὶ ἐπὶ τὴν οἰκείαν ἀρχὴν ἀνατρέχοντες, διὰ τῆς συστολῆς κινοῦσι τὰ ὑπ' αὐτῶν κινούμενα μόρια· τινὲς δὲ λέγουσιν, ὅτι μυοειδεῖς εἰσὶ, καὶ εἰς λεπτὰ ἀποτελευτῶσιν· ὡς ἐμφερείαν ἔχειν πρὸς τὴν οὐρὰν τοῦ ζώου τοὺς μῦας· καὶ γὰρ τὰ νεῦρα τὴν ὀνομασίαν ἔσχε παρὰ τοῦ νεύειν πρὸς ἑαυτά· τὸν αὐτὸν δὲ τρόπον καὶ αὐτὰ τοῖς μυσὶν ἐνεργεῖ· μᾶλλον δὲ οἱ μῦες τῶν νεύρων· παρὰ οὖν τὸ νεύειν νεῦρον, καὶ παρὰ τὸ μύειν μῦες.

a linguistic matter. Meletius paid great attention to anatomical nomenclature and the corresponding etymology, and his work frequently shows close parallels with Byzantine lexica such as the *Etymologicum Magnum*. In this case, the passage quoted by Meletius and similarly preserved in the papyrus can be compared with two entries in this lexical encyclopaedia: about the 'nerve' it says, in fact, παρὰ τὸ νεῖcθαι δι' ὅλου τοῦ cώματος (*Etym.* 601.38); whereas in the definition of μύcτρον the etymology of 'muscle' is found καλεῖται δὲ μῦc ἐκεῖνο, ὅτι μύεται καὶ cυγκλείεται ὅτε θέλει (*Etym.* 595.50). Meletius put together quotations from earlier writers and was strictly dependent on his sources, whose contents and language have been quite faithfully preserved in his work. In this respect, the *Etymologicum Magnum* cannot be his primary source. Meletius' account is more complete, and he likely took his material from the Greek physician Soranus, who wrote a treatise on etymological issues, which has been lost[169]. The similarities between his text and our papyrus might suggest that the latter quoted directly or indirectly from Soranus, thus being the repository of some lost Greek medical work.

7 τὴν δέcιν [τ(ο)ῦ] ὀcτέου: The expression "binding, joint of bones" has been compared by Kudlien to the ancient definition of nerves, see Pollux, *Onom.* II 234.1f. νεῦρα δ' ἐcτὶ cύνδεcμοc ὀcτῶν εἴκων τε καὶ τεινόμενοc, ἀφ' ὧν καὶ αἱ νευραὶ κέκληνται.

8-11 At this point, the papyrus discusses the names of what is being investigated, referring to the etymology of the terms νεῦρον (l. 10 νε]ύρων), and presumably μῦc, which are believed to derive respectively from νεύειν and [μ]ύειν. In the former case, the lexical explanation is paretymological, as νεῦρον "nerve" (√*snē-wer/n-) is not related to νεύω "incline, tend" (√νευc-, lat. *newo, *abnuo*) but to νέω, "spin", cf. Chantraine 1968, 747f. The connection between μύω "close" (√*mu-y$^{e/o}$ or √*mus-y$^{e/o}$), related to a "group de termes tirés de l'onomatopee μῦ qui s'appliquent à une

[169] Meletius makes no mention of Soranus of Ephesus, who practiced medicine between the reigns of Trajan and Hadrian, and mentions instead among his sources Socrates, author of a treatise *On the Nature of Man* containing a compilation of etymologies written 'more like a grammarian than a philosopher'. On the possible corruption of the name and the erroneous identification of Socrates of the Platonic dialogues with Soranus, cf. Renehan 1984, 159-168.

bouche fermée", cf. Chantraine 1968, 725, and μῦc "muscle" (√*mus-), originally referred to a few animal species (rat, cetacean, sea turtle), however, is possible but not verified, cf. Chantraine 1968, 725 and 728f.

9-11 λέγετε δι(ὰ) τὸ [μ]ύειν πρὸc αὐτὸν ὡc: "you say that because it bends on itself", the expression may refer to the muscle (l. 11 μῦc), as stated in line 10: ἀ[πὸ] τ(ο)ῦ νεύειν πρὸc αὐτὸ[ν "from the fact that it inclines on itself", presumably refers to the nerves (l. 10 νε]ύρων), cf. Mel., *De nat. hom.* 59.22-25 καὶ γὰρ τὰ νεῦρα τὴν ὀνομαcίαν ἔcχε παρὰ τοῦ νεύειν πρὸc ἑαυτά· τὸν αὐτὸν δὲ τρόπον καὶ αὐτὰ τοῖc μυcὶν ἐνεργεῖ· μᾶλλον δὲ οἱ μῦεc τῶν νεύρων· παρὰ οὖν τὸ νεύειν νεῦρον, καὶ παρὰ τὸ μύειν μῦεc.

12 ο̣ῦ̣τ̣ο̣c: i.e. ὁ μῦc ?

Fr. 2

On both sides, the final lines of a medical recipe and the beginning of a new one have been preserved. The pharmacological text is articulated in the same way both on *recto* and *verso*, with the title put in *eisthesis* and separated from the previous and following lines by horizontal strokes (ll. 4-7 *(a)*; 2-4 *(b)*)[170]. On the *recto*, in lines 3 and 8, the end of the recipe and the title is marked also by a dicolon followed by a short horizontal mid-line.

(a)

1-3 The upper layer of the papyrus has broken off in the middle part, leaving only few letters that hardly can be restored on the left and right sides.

4-7 Title has been totally preserved. It was copied in a narrow column of 7-10 letters per line, and refers to a dry remedy effective against ailments affecting the head.

The term ξηρίον indicates a desiccative powder effective on wounds and ulcers. For other references to this term in papyri, see *P.Mich*. XVII 758 G 5, *MPER NS* XIII 7.1 and XIII 12.1, 5, 12, 17, and *P.Ant*. II 66 l. 4 (ξηρίον ὀξυδορκικόν, 'a desiccative powder promoting sharpness of sight') = *Suppl. Mag*. II 94. l.4. Remedies called

[170] On the formal structure of prescriptions and their division into sections, cf. Andorlini 2006a, 145f.

ξηρία are listed by Oribasius, *Syn. ad Eust*. III 107ff., and a treatment for the head is recorded in III 10: Κεφαλικόν. Ἀφίστηci λεπίδαc, ἀνάγει ὀστᾶ διεφθορότα καὶ τὰ κοῖλα caρκοῖ. ῎Ιρεωc ≼ <δ>, πάνακοc ≼ <δ>, ἀριστολοχίαc ≼ <β>, λιβάνου ≼ <β>, μάννηc ≼ <β>. πάντα κόψαc καὶ cήcαc χρῶ κατ' ἰδίαν καὶ μετὰ μέλιτοc. Other κεφαλικά are found in Orib., *Ecl. med.* 98.4 and 8.

Galen describes the κεφαλικόν as a drying plaster used to heal certain types of wounds (*Meth. med*. X 164.4-6) τὸ caρκωτικὸν φάρμακον τὸ ξηρὸν, ὃ δὴ κεφαλικὸν ὀνομάζουcι· cύγκειται δὲ ἐξ ἴρεωc καὶ ἀριστολοχίαc ὀρόβου τε καὶ λιβανωτοῦ καὶ μάννηc. Aetius XV 14 mentions the κεφαλικά as specifically recommended for head injuries: κεφαλικὰc ἐμπλάστρουc εἰώθαcιν ὀνομάζειν τὰc ἐπὶ τῶν ἐν τῇ κεφαλῇ τραυμάτων.

(b)

2-4 The fragment presumably contains a recipe of a tablet against dysentery, ascribed to an author with a Byzantine name (l. 3f. Ιω|άνν(ο)υ Λυκίου), otherwise unknown in later literature (cf. Marganne 1981, 97, where she refers to a 'Ioannes from Lycia'). For later physicians named Ioannes, see *RE* IX 2 (19169, 24-40. Physicians called Λούκιοc or Λεύκιοc (cf. Λύκιοc pap.) occur in Galen in a few passages: Lucius is attested as a doctor named καθηγητής, who was probably the instructor of Asclepiades and Criton (*Comp. med. sec. loc*. XII 787.3ff. *ex Asclepiade*), but is also quoted in a section of recipes against dysentery (*Comp. med. sec. loc*. XII 623.11 *ex Andromacho*), and in another one concerning eye-salve treatment called *diarrhoda* (*Comp. sec. loc.* XII 767,12-768-14). It is worth noting that in *Comp. med. sec. loc*. XII 766.10-11. Galen mentions a *didaskalos* named Ioannes, whereas in XII 767.12 he refers again to Lucius. It might be supposed that Lucius and Ioannes were the same doctor, quoted by Galen from different sources: the first name Ioannes might have been used when he quoted directly from his writings, whereas the name Lucius might occur every time he quoted from an

intermediate source, i.e. Asclepiades[171]. If this hypothesis is tenable, *P.Ant.* III 127 would attest to a tradition different from that of the Galenic text.

The title put in *eisthesis* is separated from the preceding line by a *paragraphos*, and from the *corpus* of the recipe by an interrupted horizontal line. All the ingredients have strong astringent properties.

2 τροχ[ίσκ]ος δυσεντερ[ικ]ός: The same title is attested with no attribution *ap.* Alex. Trall., *Therap.* II 427.3:

Τροχίσκος δυσεντερικός.

Ἐφ' ὧν ἕλκος ἐν τοῖς ἐντέροις καὶ νομὴ μεγάλη τίς ἐστιν, ἀνάγκη τοῖς δι' ἀρσενικοῦ καὶ σανδαράχης καὶ τιτάνου κεχρῆσθαι τροχίσκοις. εἰσὶ δὲ πολλοὶ πρὸς τὰς τοιαύτας διαθέσεις ἀναγεγραμμένοι, ὧν ἐστιν ὅ τε Φαυστῖνος λεγόμενος καὶ ὁ δι' ἀρνογλώσσου. ἀλλ' οὐδεὶς οὕτως ἰσχυρῶς οἶδε παύειν νομὰς, ὡς ὁ ὑπ' ἐμοῦ σκευαζόμενος τροχίσκος, οὗ τὴν δύναμιν ἐθαύμασαν ἐπ' αὐτῶν τῶν ἔργων οἱ πολλοὶ τῶν ἀρίστων ἰατρῶν. ἔχει δ' αὐτοῦ ἡ γραφὴ οὕτως· ἀρσενικοῦ, σανδαράχης, λεπίδος χαλκοῦ, ἀνὰ δραχ. δ′, λειοτριβήσας αὐτὰ δίκην κολλουρίων ἐν τοῖς κυνοκαύμασιν οὕτως ἐπίβαλε

ὀπίου . . . . . δραχ. α′
ἀσβέστου ζώσης . . . . . δραχ. ιβ′
βαλαυστίου . . . . . δραχ. ι′
ὑποκιστίδος χυλοῦ . . . . . δραχ. ι′
χάρτου κεκαυμένου . . . . . δραχ. ι′

Three components listed by Alexander occur in the papyrus in a different order in lines 5-7 (χάρτου κεκαυμένου, ὑποκιστίδος, ἀσβέστου), and another remedy with the same title is recorded *ap.* Alex. Trall., *Therap.* II 431.27 Δυσεντερικὸς τροχίσκος διὰ στόματος διδόμενος ποιεῖ πρὸς πάντα τὰ ἐντὸς καὶ πᾶν ῥεῦμα.

A tablet for those afflicted with dysentery (Ὁ δι' ἠλέκτρου τροχίσκος δυσεντερικοῖς) is also mentioned by Orib., *Ecl. med.* IV 53.9.2f., but its ingredients

[171] For a possible identification of Ioannes Lucius, see Andorlini 1992, 17.

do not resemble those listed in the papyrus. A chapter Περὶ τροχίσκων, with sophisticated decorations all around, is preserved by *P.Berol*. inv. 21350 (2nd-3rd; M-P^3 2355.06, *LDAB* 4217), edited by Marganne (for an *excursus* on the *pastilli*, see 120ff.)[172].

5 χάρτ(ο)υ κεκαυμ(ένου): the abbreviation κεκαυμν̄, i.e. κεκαυμ(ένο)υ, suggested by Barns is not supported by the inspection of the papyrus: the sinusoid is visible above the line and the horizontal stroke only indicates the beginning of a new recipe. I owe this suggestion to Fabian Reiter. "Burned papyrus" as well as burned dill (*Anethum graveolens*) and burned round gourd (*Cucurbita maxima*), were used in the treatment of wounds for its desiccant and cicatrizing properties: if applied moistened as a lotion, papyrus helps to cure ulcers; when prepared as a dry compress for open wounds, it helps to keep them dry, cf. Gal., *Ad Glauc. de meth. med.* X 382, and Dsc. I 86.

6 ὑποκυ̣ς̣τ̣[ίδος: "Hypocist" *Cytinus hypocisthis* (cf. Dsc. I, 97), especially recommended for the astringent juice obtained from the fruit of the plant; for its occurrence in papyri, see Gazza 1956, 100.

7 ἀσβέ[στου: (sc. τίτανου) "Unslaked lime"; normally regarded as a warming, stinging, corrosive, caustic substance, it could assume digestive and cicatrizing properties (πεπτική, μαλακτική, διασκεδαστική, κατουλωτική) when mixed with animal fat or oil, cf. Dsc. V 115. ἄσβεστος occurs also in *P.Paramone* 3 l. 2, for its properties, cf. Durling 1993; Reiter 2004, 13.

The ingredients mentioned above occur together only in three recipes preserved by Gal., *De comp. med. sec. loc.* IX 5, Orib., *Ecl. med.* 54.8, Alex. Trall., *Therap.* VIII 3, see Andorlini 1992, 16.

Fr. 3

This small scrap of papyrus preserves on both sides the remains of eight lines, and the column portion, as reconstructed here, suggests an average of about 12 letters to each

[172] Marganne 2008a, 119-129.

line. On side *(a)*, a short horizontal stroke is visible in the top margin above the penultimate letter.

It contains two passages from a single chapter by Alexander of Tralles concerning the treatment of various kinds of abdominal diseases. Since it cannot be stated whether the *recto* of this papyrus sheet preceded the *verso* in our codex or vice versa[173], it is impossible to say if the excerpts contained in this fragment followed the order of the prescriptions listed in Alexander. The estimated average extension of the codex page, however, does not exclude the possibility that the entire chapter, rather than single recipes, was copied in this papyrus.

The text on side *(a)* overlaps *verbatim* with Alex. Trall., *Therap.* II 377.22-24, a passage that contains specific instructions for the manufacturing of an iron ring (δακτύλιον σιδηροῦν) effective in the treatment of colic (II 377.19-26): Λαβὼν δακτύλιον σιδηροῦν ποίησον γενέσθαι τὸ κρικέλλιον αὐτοῦ ὀκτάγωνον καὶ οὕτως ἐπίγραφε εἰς τὸ ὀκτάγωνον ‘φεῦγε, φεῦγε, ἰοῦ χολή, ὁ κορυδαλὸς ἐζήτει’. τὸν δὲ χαρακτῆρα τὸν ὑποκείμενον γράφε εἰς τὴν κεφαλὴν τοῦ δακτυλίου Ν. καὶ τούτου πολλὴν ἔσχον πεῖραν καὶ ἄτοπον ἐνόμισα μὴ παραδοῦναι τηλικαύτην ἀντιπαθῶς ἔχουσαν πρὸς τὸ πάθος δύναμιν. ἀλλὰ παρακαλῶ ὑμᾶς, μὴ πρὸς τοὺς τυχόντας ἐμφαίνειν τὰ τοιαῦτα, πρὸς δὲ τοὺς φιλαρέτους καὶ τὰ τοιαῦτα δυναμένους φυλάττειν, “Take an iron ring and make its hoop eight-sized, and write thus on the octagon: flee, flee, o bile, the lark is pursuing you”. Then engrave the following character on the head of the ring: N. I have used this method many times, and I thought it inappropriate not to draw your attention to it, since it has a power against the illness. But I urge you not to tell people you happen to meet about it, but to reserve it to those who are virtuous and capable to guarding it”[174].

It is interesting to notice that the formal characteristics of this amulet, including its shape and magic symbols, correspond to those of Christian talismans intended for the same purpose, cf. Vikan 1984, 65-86. On the use of rings in medical magic, see *RE*

[173] On the physical features of the codex and homogeneity of surface found on facing pages, see Turner 1977, 66-71.

[174] Translation by Vikan 1984, 76.

A.1, Ringe, coll. 837-839; for the mention of healing rings in magico-medical prescriptions, cf. *P.Ant.* II 66, l. 22.

The papyrus text on side *(b)* overlaps with Alex. Trall., *Therap.* II 375.21f., and includes a remedy against colic and abdominal pain (περίαπτα φυσικὰ πρὸς τοὺς κωλικὴν ἔχοντας διάθεσιν), introduced as a proven treatment highly esteemed by the best doctors. A similar amulet against tonsillitis occurs in *P.Oxy*. XLII 3068.1 (3rd century AD) τὸ πρὸς παρίσθμια περίαμμα. Both Greek terms περίαπτον or περίαμμον are derived from the verb περιάπτειν ("to tie on") and define the amulets hung around the part of the body that is to be protected against maleficent influences.

The prescription concerns the application of wolf faeces enclosing the right arm, or alternatively thigh or loin, depending on the suffering member, Alex. Trall., *Therap.* II 375.22-25: λαβὼν ἀφόδευμα λύκου, εἰ δυνατὸν, ἔχον ὀστάρια κατάκλεισον εἰς σωληνάριον καὶ δὸς φορεῖν περὶ τὸν δεξιὸν βραχίονα ἢ μηρὸν ἢ ὀσφὺν ἐν τῷ παροξυσμῷ κατὰ τοῦ ἀλγοῦντος μέρους φυλαττόμενος, ὡς μήτε τῆς γῆς μήτε λουτροῦ θίγειν. Made of wolf excrements, such charms apparently belong to the category of folk remedies, often considered since antiquity as "falling outside the profession of medicine"[175], which acquired a growing social and medical acceptance among all classes in the Byzantine empire[176]. Pharmaceutical substances such as urine or excrement were believed to dispel the evil spirits that had caused the disease. In some cases, spells contained the command to instruct the illness to leave the patient's body, or to transfer it to another creature[177].

Excrements were commonly used in Pharaonic medicine and are widely mentioned by ancient physicians[178] who classify animal faeces – and human faeces as well – among dry drugs[179]. They were usually administered as a pounded mixture diluted with light wine or water, and Galen particularly recommends wolf excrements against

[175] Scribonius Largus, *Comp.* 17 (1st AD).

[176] For the peculiarities of medicine in late Antiquity, see Nutton 1984, 1-14.

[177] Cf. David 2004, 133-151.

[178] The prescription of animal drugs frequently occurs in Hippocratic gynaecological treatises, cf. *e.g. Nat. Mul.* 32, 82, 90, and in Galenic works, cf. Jouanna 2011, 47-77.

[179] Galen, *De simpl. med. temp. ac fac.* XII 290-309; Gazza 1956, 108.

the irritation and inflammation of the colon *ap. Simpl. Med. Fac.* XII 295.6-297.9: τὴν [*scil*. κόπροc] δὲ τῶν λύκων ἐπότιζέ τιc κωλικοὺc οὐ μόνον ἐν τοῖc παροξυcμοῖc, ἀλλὰ καὶ τοῖc διαλείμμαcιν, ὅcοι γε χωρὶc φλεγμονῆc ἔπαcχον.

The medical effectiveness of this substance is explicitly argued by Galen in opposition to the procedures of wizards[180], suggesting a largely sceptical attitude among patients and physicians with regard to this medical procedure: τοῦτο μὲν δὴ κατὰ τὸ πάρεργον, εἰ μέλλει τιc καὶ τοῖc οὕτω περιαπτομένοιc πιcτεύειν, λέγω δ'οὕτωc, ὥcτ' οὐcίαν εἶναι τὴν περιαπτομένην, οὐκ ὀνόματα βάρβαρα, καθάπερ εἰώθαcιν ἔνιοι τῶν γοήτων, ἐπείτοι καὶ ἄλλων οὐcιῶν ἐπειράθην ὁμοίωc ἐνεργουcῶν ἐπ' ἄλλων παθῶν, XII 297.3-8.

Fr. 4

(a)

1 πρὸc ἦπαρ: The title of a prescription for the liver is preserved. Frequently used by physicians in Antiquity, such heading is found also in Alex. Trall., *Therap.* II 395.19.

The *verso* is blank except for the remains of a horizontal stroke in the lower left corner not previously acknowledged, probably introducing a new title.

Fr. 5

On side *(a),* the fragment contains the remains of a pharmacological prescription, i.e. a few quantities given in ounces have been preserved (ll. 3-5), and only the right margin survives entirely. On the back, two recipes have been recorded and marked by an interrupted horizontal line. The first one (ll. 1-3) is barely legible, whereas the second one (ll. 4-9) contains the title of a eye-salve, κο(λλύριον) κύκνο̣[c. The word κολλύριον has been abbreviated by the scribe in its first two letters, with o written smaller on the top of κ and set in *ekthesis*. This combined use of the horizontal stroke and the *ekthesis*, constitutes a favored format in such pharmacological manuals, see *e.g. P.Ryl.* III 531, *PSI* X 1180 (2nd century AD).

[180] For magic and rationality in Galen, cf. Boudon-Millot 2003, 109-131; Jouanna 2011, 47-77.

(b)

4 κο(λλύριον) κύκνο[c: Collyria were often identified in ancient pharmacological collections by descriptive epithets or distinctive ingredients; in this case, the eye-salve is named after the swan (*Cygnus olor*) because of its white appearance, which was generally due to Samian clay, i.e. starch and white lead, cf. Gal., *De comp. med. sec. loc*. XII 708. The recipe of a collyrium *Cycnus* is quoted by Gal., *De comp. med. sec. loc*. IV 8, Orib., *Syn. ad Eust*. III 119, Aet. VII 106, Paul. Aeg. VII 16.8, and also occurs in Alex. Trall., *Therap.* II 33.1ff. It was effective against rheum of the eyes and recommended to weak and delicate patients for its soft, light texture. The term collyrium derives from the small sticks into which the ingredients were fashioned, dried and stored; before application, liquid was added.

According to *e.g.* Gal., *De comp. med. sec. loc.* XII 766,9-10, 768,12-13, 743,16-17; Orib., *Syn. ad Eust.* III 119, possible supplements of the papyrus recipe are as follows[181]:

Κο(λλούριον) κύκνο̣[c ὁ τῆc
βα̣ρ̣ι̣[λίccηc
πρ[ὸc ῥ̣εύματα
μετ̣[ὰ τῶν ὠῶν
τοῦ [λευκοῦ ἢ
χυ[λοῦ

Otherwise:

Κο(λλούριον) κύκνο̣[c ξανθὸc
βάρ̣cc[ου ποιεῖ
πρ[ὸc ῥ̣εύματα
μετ̣[
του[
χυ[λοῦ

[181] Andorlini 1992, 18-20.

Although drawing upon the classical heritage, Byzantine pharmacy also shows a clear development of its own, seen best in the re-elaboration, integration, adaptation of medical recipes despite their traditional denomination. The heading '*Collyrium Cycnus'*, in fact, generically refers to a large number of prescriptions whose content varies greatly and whose substances differ both in number and kind insomuch as they have very little in common except for their name. The traditional definition made it possible to identify the original remedy even when its content was considerably modified.

The prescription of the collyrium, in this papyrus referred to as Κύκνος, distinctly points to two opposite tendencies in the transmission of pharmacological knowledge, i.e. the continuity in the tradition of ancient remedies, identified by a specific denomination (the 'container' of the recipe), and the progressive change of their formulation (the 'content').

8 του[: Potential supplements might be: αἱματί|του[, "hematite", used in Egypt against various ocular disorders, such as scars and rough areas in the eyes (cf. Dsc. V 126.1), or cχιc-|του[(*sc.* λίθου), an iron oxide ore similar to hematite, appropriate for treating the same eye conditions (cf. Dsc. V 127.1).

Fr. 6

On both *recto* and *verso* the upper and lower margins have been preserved, as well as the left and the right one, respectively. Fr. 6 *(a)* contains two recipes marked by a horizontal stroke, with the second prescription set sligthly in *eisthesis* in comparison to the previous one. On side *(b),* the remains of two numerals have been preserved (ll. 2; 5).

(a)

3 ξη[ϱ: A recipe of a ξηϱίον "desiccative powder" is possibly contained.

(b)

1-3]υ cπέϱ|[ματος ...]| cτα|[φυλίνου: "seed" and "carrot" (*Daucus carota*) are the most likely restorations. In addition to bitter almonds, they are both employed in purifying and diuretic remedies, cf. *e.g.* Orib., *Coll. med.* XIV 47.1.

3-4 ἀ]μυγ|[δαλ]κρω(ν): almonds were used for their emollient or sedative properties, cf. Gazza 1956, 78. One might suggest the restoration ἀ]μυγ|[δάλων πι]κρῶ(ν), although line 4 would contain only 10 letters rather than 11-14 as in fr. 3.

6]μυρ: There are diverse possibilities, *e.g.* c]μύρ|νηc, "myrrh", or μύρ|του, "myrtle" (cf. Marganne 1981, 98). These substances were frequently used in aromatic recipes in combination with sweet almonds.

Fr. 7

The bottom and left margins are preserved on the front side, while the lower edge survives on the back. On the *recto*, the fragment seems to contain indications on the external application of a plaster/balsam, maybe using a wet rag (l. 1 βρέχεται).

(a)

3 ιρου: cίρον, -oc is proposed by the first editor, meaning θεῖον ἄπυρον "native sulphur". The crude typology (ἄπυρον) was used mainly for cutaneous diseases, whereas the θεῖον λιπαρόν was used against constipation. For the properties of sulphur, cf. *e.g.* Dsc. V 123. Marganne's suggestion ἀποcίρου (*l.* ἀποcείρου) "filter", seems more conceivable with reference to βρέχεται in the previous line.

(b)

3 ομου: It might be interpreted as ὁμοῦ "at once" with reference to the drug's posology.

4 A trace of ink, not acknowledged in *ed.pr.*, is visible below *omicron*.

Fr. 8

Fr. 8 preserves a wide upper margin and the remnants of three lines on both sides.

(a)

1 λίθου cχιcτοῦ "schist", used as an external astringent, cf. Gazza 1956, 104.

κε]καυμέν[ο]υ "burned", referable to many different substances (*e.g.* χαλκός; χάρτος, cf. fr. 2. 5).

(b)

2 ἡμ]έρ̣ας δύ[ο: "two days", recommendations regarding the frequency of dosing are probably contained, cf. Barns – Zilliacus 1967, 58, and fr. 7, 2.

Frr. 9, 10, 11, 12

The last four fragments are very badly damaged. They preserve traces of three/four lines, and only few letters per line. On side *(a)*, frr. 11 and 12 contain respectively parts of the upper and the left margin; similarly, in frr. 10, 11, 12 *(b)* parts of the left, the right, and the upper margin survive. Their content is presumably pharmacological, although only few words can be identified.

Fr. 10 *(a)* certainly contains the beginning of a recipe separated from the previous text by a *pharagraphos*. It was prepared with copper (χαλκ(ο)ῦ, l. 1), and other ingredients were measured in ounces. In line 3 *(b)* a possible restoration is στυπ[τηρία "alum", cf. Marganne 1981, 98.

Content and context

The combination of 'rational' and 'irrational' medical content is indeed one of the striking features of *P.Ant.* III 127. One question concerns the reason why such different medical procedures were collected together in the same codex, and a few considerations can be made about the identification of Alexander's passages.

Son of a Byzantine doctor named Stephen, Alexander of Tralles (525-605 AD) practiced as a physician during the age of Justinian and travelled widely before settling in Rome[182]. What survives in Greek of his works is the preface to *On fevers*, the *Letters on Intestinal Worms*, and the *Therapeutica*, divided into twelve books addressing various internal diseases and their treatments, whereas the writings *On the eyes* and *On the pulse and the urine* are not authentic. Reading through Alexander's treatises, his acceptance of main Hippocratic theories, made canonical by Galen, with

[182] Our main data for Alexander's family comes from Agathias' *Histories* V 6.3-6; for a general account, see D. Langslow in Bagnall – Brodersen – Champion – Erskine – Huebner 2011, 305.

no veneration for the traditional sources, emerges clearly[183]. His independent attitude is particularly instanced by his ongoing search for new ways of treating disease, the rearrangements of ingredients on the basis of his own professional experience, and new names given to common pharmacological substances[184].

In accordance with his time, Alexander gave credit to the efficacy of φυσικά, 'natural remedies'[185] comprising charms, amulets and talismans, including them in his books alongside conventional pharmacological remedies[186]. However, this inclusion does not necessarily mean a genuine belief in the healing properties of those supernatural and magic substitutes[187]. Sensitive to a generally critical approach, Alexander rather states the importance for the doctor to be ready to do anything possible in the interests of patients[188], even when traditional treatments are rejected by them as repugnant[189]. He regards it as quite immoral (ἀσεβές) not to take into account something that may

[183] Cf. Alex. Trall., *Therap.* II 155.20-22 Pushmann: ἀλλ' ἐκεῖνο δεῖ πράττειν, ὅπερ, φησίν, Ἀριστοτέλης εἴρηκε· 'φίλος μὲν ὁ Πλάτων, φίλη δὲ καὶ ἡ ἀλήθεια, δυοῖν δὲ προκειμένων προκριτέον τὴν ἀλήθειαν'; on the reception of Galen, cf. Guardasole 2004, 219-234.

[184] For new substances and dosages in Alexander, cf. Scarborough 1997, 51-60.

[185] The translation 'natural remedies' keeps the literal meaning of the word φυσικά; for different translations into other modern languages, cf. Bouras-Vallianatos 2014, 337-353, n. 74.

[186] In Alexander's works, magical remedies are attested against fever (*De febr.* 6; 7), epilepsy (*Therap.* I, 15), hiccup (*Therap.* VII, 9), colic (*Therap.* VIII, 2), kidney stones (*Therap.* XI, 1), gout (*Therap.* XII).

[187] Cf. Scarborough 1997, 55; Duffy 1995, 95.

[188] Alex. Trall., *Therap.* I 573.1: ἐγὼ δὲ φιλῶ πᾶσι κεχρῆσθαι, "I like to use every possible means (in treating my patients)".

[189] Alex. Trall., *Therap.* II 375.11-16: ἀλλ' ἐπειδὴ τῶν περιοδευομένων πολλοὶ καὶ μάλιστα τῶν πλουσίων οὔτε πίνειν ὅλως θέλουσι φάρμακον οὔτε κλύσμασι θεραπεύειν τὴν γαστέρα, διὰ δὲ περιάπτων φυσικῶν ἀναγκάζουσιν ἡμᾶς ἀποπαύειν αὐτῶν τὴν ὀδύνην, ἐσπούδασα καὶ περὶ τούτων ἐκθέσθαι ὑμῖν, ὧν τε αὐτὸς ἔσχον πεῖραν καὶ ὅσα παρὰ φίλων ἀληθινῶν ἔγνων ὠφελεῖν δύνασθαι, "However, since many patients, especially wealthy ones, absolutely do not want to drink drugs nor to treat the stomach with the enema, but force us to placate their pain through magical charms, I tried to show you, also in relation to these remedies, what I learnt from experience and from trustworthy friends that can be helpful"; cf. also Alex. Trall., *Therap.* I 557.13-18: ἀλλ' ἐπειδὴ τοῖς φυσικοῖς καὶ περιάπτοις χαίρουσί τινες καὶ τούτοις κεχρῆσθαι ζητοῦσι καὶ κατὰ τὸ ἀληθὲς αὐτῶν τυγχάνουσι τοῦ σκοποῦ, πρέπον ἐνόμισα τοῖς φιλομαθέσι καὶ περὶ τούτων ἐκθέσθαι τινὰ, ὥστε τὸν ἰατρὸν πανταχόθεν εὔπορον εἶναι εἰς τὸ βοηθεῖν δύνασθαι τοῖς κάμνουσιν, "Since some people are pleased with magical remedies and charms, want to use them and actually achieve their aim, I thought it was suitable to say something about them for those who are eager for knowledge, so that the physician has a variety of useful resources to choose from when treating sick people".

be helpful for the sick[190], probably considering the patient's belief in the remedy used as a real contribution towards healing[191].

In his work, Alexander combined a deep knowledge of traditional medicine and folk-magical cures, and in this codex, too, his prescriptions might be somewhat 'rational' in their purpose, even though magical procedures rather than 'scientific' medicine are involved.

Both recipes on fr. 3 are presented as effective remedies highly esteemed by the best physicians, proven by the author himself and evaluated especially from experience[192]. In the passage on the *recto*, the first-person singular is used by Alexander to provide his own perspective and to give his words added force as the direct outcome of ~~a~~ clinical practice. On the *verso*, the first-person plural implies a notion of 'communality', and seems to refer to a specific audience which share the same medical knowledge[193]. Moreover, the emphasis on the efficacy of the remedies, frequently attested in medical papyri[194], reveals the author's attempt to claim authority by presenting himself as a respectable practitioner rather than a mere compiler of medical writings.

A similar intent is likely for the mention of Hippocrates at the end of the chapter on fr. 3 side *(a)*[195]. Through the Hippocratic words reported in direct speech and marked

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[190] Alex. Trall., *Therap.* II 319.8-10: καὶ γὰρ ἀσεβές ἐστι τοιοῦτον παραλιπεῖν καὶ γενέσθαι κώλυσιν τῶν εἰς σωτηρίαν συντελούντων τῷ κάμνοντι, ὁπότε καὶ ὁ θειότατος Γαληνὸς καὶ οἱ πρὸ αὐτοῦ τούτοις ἐχρήσαντο, "In fact, it is immoral to disregard such remedies (*scil.* περίαπτα φυσικὰ) and that there is prejudice against those things which contribute to healing the sick, when the divine Galen and those before him used such remedies". The epithet θειότατος referring to Hippocrates became common in the Byzantine Era, cf. Ieraci Bio 1993, 13-14.

[191] Cf. Scarborough 1997, 55 and Garzya 1997, 356f. Also the gynaecologist Soranus did not object to the use of amulets for, instilling hope in the patient, they facilitate the process of recovery, *Gyn.* III 12: τὸ περίαπτον δι' ἐλπίδος εὐθυμοτέραν τὴν κάμνουσαν τάχα παρέξει; for other examples, cf. Hanson 1995, 289-290. For the placebo as a positive factor in therapeutics in Medieval medicine, cf. Wilcox – Riddle 1995, 1-48.

[192] Alexander frequently emphasizes the importance to test remedies in order to evaluate their effectiveness, often referring to his personal experience, cf *e.g. Therap.* I 12; 13; 14.

[193] Cf. Bouras-Vallianatos 2014, 337-353.

[194] Cf. Gazza 1956, 114 nn. 1 and 2.

[195] Alexander claims that his position on magical remedies and charms is actually also supported by Galen: *Therap.* II 475.4-14: ἔτι δὲ καὶ ὁ θειότατος Γαληνὸς μηδὲν νομίσας εἶναι τὰς ἐπῳδὰς ἐκ τοῦ πολλοῦ χρόνου καὶ τῆς μακρᾶς πείρας εὗρε μεγάλως δύνασθαι αὐτάς. ἄκουσον οὖν αὐτοῦ λέγοντος, ἐν ᾗ περὶ τῆς καθ' Ὅμηρον ἰατρικῆς ἐξέθετο πραγματείας· ἔχει δὲ οὕτως· 'ἔνιοι

by a holy language Alexander intends to propose a healing ring as a valuable charm to initiates[196]: Alex. Trall., *Therap.* II 377.26-28 ὅθεν καὶ ὁ θειότατος ἰδὼν Ἱπποκράτης παρακελεύεται λέγων· ‘τὰ δὲ ὑερὰ ἐόντα πρήγματα ἱεροῖcιν ἀνθρώποιcι δείκνυται, βεβήλοιcι δὲ, οὐ θέμιc’. γινέcθω δὲ ὁ προϋποτυπωθεὶc δακτύλιοc ιζ’ τῆc cηλήνηc ἢ κα’.

Not only does *P.Ant.* III 127 reveal quite a lot about folk remedies increasingly gaining medical and cultural acceptability in the Byzantine Era, and the role of popular beliefs in the upper strata to which Alexander and his patients belonged, but it also illustrates how different concepts of medicine coexisted in medical practice.

γοῦν οἴονται τοῖς τῶν γραῶν μύθοις ἐοικέναι τὰς ἐπῳδὰς, ὥcπερ κἀγὼ μέχρι πολλοῦ· τῷ χρόνῳ δὲ ὑπὸ τῶν ἐναργῶc φαινομένων ἐπείcθην εἶναι δύναμιν ἐν αὐταῖc· ἐπί τε γὰρ τῶν ὑπὸ cκορπίου πληγέντων ἐπειράθην ὠφελείας, οὐδὲν δ' ἧττον κἀπὶ τῶν ἐμπαγέντων ὀcτῶν ἐν τῇ φάρυγγι δι' ἐπῳδῆc εὐθὺc ἀναπτυομένων. καὶ πολλὰ γενναῖα καθ' ἕκαcτόν εἰcι καὶ ἐπῳδαὶ τυγχάνουcαι τοῦ cκοποῦ’. “Also the divine Galen, who did not believe at all in magic formulas, after a long time and long-standing experience discovered that they have a great power. Therefore, listen to the words that he said in his treatise about the medicine in the Age of Homer: he said that: ‘someone actually thinks that the magic formulas are similar to old folk tales, and I did the same for a long time. With the passing of time, I became convinced by clear evidence that they are powerful; in fact, I tested their effectiveness on those stung by the scorpion, and they were not less effective in the cases of bones stuck in the throat, which were immediately expelled thanks to a magical formula. As there are many excellent remedies for every disease, also magical formulas fulfill their purpose’ ”.

[196] By indirectly discouraging the reader from circulating his remedies, the author might attempt to get his audience more actively involved in medical practice, cf. Bouras-Vallianatos 2014, 337-353.

3.5 Antinoopolis magico-medical papyri

3.5.1 *P.Ant.* II 66

P.Ant. II **66** (MP^3 2391, *LDAB* 5992)[197] represents a genuine example of medical recipes marked by a distinct magical connotation. Dating from the 5th cent. AD, it contains on two columns the remains of thirteen prescriptions (eight on the *recto* ll. 1-29, and five on the *verso*, ll. 30-61) collected on the basis of no manifest criteria and copied in a semi-literary handwriting. The orthography is poor; monograms are occasionally used for the abbreviation of γρ(άφε) and πρ(όc), and the symbol of drachma occurs twice (ll. 5, 6).

Though different sections are generally simply separated by *paragraphoi* (ll. 3, 6, 16, 21, 58) and spells are introduced by a *dicolon*, at least in one case the layout is unconventional: a magic formula on the back is set at mid-column and inscribed in a square (ll. 40-43).

The magical content of the fragment is pointed out in most cases immediately by the heading[198], which introduces each prescription and occasionally preserves references to non-pharmacological remedies, like charms or phylacteries (l. 10 "Protective charm against fever (?)")[199], magic formulas (l. 44 "And this is the formula of the

[197] Barns – Zilliacus 1960, 47-49; Daniel – Maltomini 1992, n. 94; for the English translation, cf. Betz 1986, 304f. and Daniel – Maltomini 1992, 214; http://litpap.info/dclp/64757.

[198] For the structure of magical prescriptions and function of the subtitles and main titles, cf. Betz 1986, xxxii.

[199] Translation by Daniel – Maltomini 1992, 214. Phylacteries, literally meaning "defenses", were a species of amulets made of diverse material, such as metals or papyrus, designed with a shape and size adapted to the part of the body on which they were to be worn. Both Egyptian and Greek magic was used to deal with health problems and to defend the human against the will of the gods and several causes of misfortune, it applied cures against symptoms but was also prophylactic. Fever is a recurring concern in formularies and amulets; about the medical terms for fever in these texts, cf. de Haro Sanchez 2010, 132ff. In the system of Greco-Egyptian *mageia* we encounter the detailed production of healing amulets, well-documented in the collection of the *Greek Magical Papyri* published by Preisendanz. In one illustrative example the object took the form of a magically inscribed gold tablet: *PGM* II 580-84 (P.gr. 121, Brit. Mus, 3rd AD) Φυλακτήριον cωματοφύλαξ πρὸc δαίμονας, πρὸc φαντάcματα, πρὸc πᾶcαν νόcον καὶ πάθοc· ἐπιγραφόμενον ἐπὶ χρυcέου πετάλου ἢ ἀργυρέου ἢ καccιτερίνου ἢ εἰc ἱερατικὸν χάρτην φορούμενον cφραγιcτικῶc ἐcτιν, "A phylactery, a bodyguard against demons, against phantasms, against every sickness and suffering, to be written on a leaf of gold or silver or tin or on hieratic papyrus. When worn, it works mightily". A number of

water"), or diseases due to a divine cause (l. 17 πρ(ὸc) δαιμονιαζομένου[c "for those possessed by evil spirits")[200].

When the titles do not contain magical elements (l. 7 "For easy healing" or "easy childbirth"[201]; l. 22 "For the eyes"; l. 27 "[Against] tumors [and]…"; l. 36 "[Against…] and strangury"; l. 39 "Another, for migraine headache"[202]), the magical nature of the remedies is disclosed by the remains of spells and *voces magicae*, often untranslatable and meaningless, which were normally intended to be spoken or written on amulets and tin lamellas. Writing spells down was considered a magical act, as the power of images and words increased when they were engraved on stone or metal plates.

These magic formulas are usually associated with various instructions (l. 7 "write on an amulet"; ll. 23f. "make a Gothic ring and inscribe on it (?) the name given below and wear it on the right hand on the middle finger […]"; ll. 28-32 "[write] on a grape-wine leaf what is given below and after boiling it … the leaf …"; l. 37 "[write on] a tin plaque")[203], which characterize the texts preserving magical formularies as opposed to the actual amulets and phylacteries on papyrus that normally contain simple invocations[204].

Few prescriptions in *P.Ant.* II 66 do not appear to preserve magical elements, such as the first recipe on side *(a)*, a "drying powder made with saffron [for] sharp eyesight (ὀξυδορκικόν)". This is a remedy whose dosage is expressed in drachmas, and whose main component and texture correspond to those of common eye-salve recipes

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phylacteries, small squares or rectangles of folded papyrus containing invocations to Jesus Christ were discovered along with oracular questions addressed to Collouthus during the excavation work in *kôm* 2, cf. Pintaudi 2008, 546.

[200] Translation by Daniel – Maltomini 1992, 214.

[201] According to the first editor, the purpose of a magic formula to be written on a charm was indicated through the term ἐυακίαν "for excellent health" or "easy healing", not otherwise attested in magical or medical literature; on the contrary, Daniel – Maltomini 1992, 215 have εὐτ̣[ο]κίαν "easy childbirth". However, it must be observed that πρὸc is usually employed in the recipes' title to indicate the disease against which the remedy was effective, rather than the purpose of the prescription. The papyrus text is damaged at this point, and a different reading may not be excluded.

[202] In Egyptian medicine migraine was regarded as caused by demons and supernatural forces, but it was also pharmacologically or surgically treated when its origin was attributed to a different cause, i.e. trauma in medical papyri, cf. Karemberg – Leitz 2001, 911-916.

[203] Translation by Daniel – Maltomini 1992, 214.

[204] Cf. Betz 1986, xxxiii.

(κολλύρια τὰ ὀξυδερκικά), that are believed to encourage tearing and thus to improve eyesight, albeit temporarily[205]. The mention of boar skin in line 6 is not elsewhere attested in ancient pharmacology.

Eye diseases occur also in the miracle narratives of St. Collouthus. While the miraculous healing is usually obtained through unconventional procedures, such as the application of a chaste woman's breast milk[206], in one case the recovery from blindness is gained through a medical procedure directly performed by the saint-physician consisting in wiping the patient's face with a green tissue and applying an eye-salve probably made of antimony[207].

In magico-medical papyri, the strictly medical content is usually revealed by the mention of the disease, identified as the object of a formula or ritual and often expressed using technical terminology, and *P.Ant.* II 66 generally conforms to this standard.

On the contrary, it is far less frequent for iatromagical prescriptions to contain a report of the symptoms and an extensive description of the pathology evolving over time. This is what is preserved in lines 44-61, where a spell connected to the therapeutic use of fresh water (l. 44 νηροῦ) is found[208].

This formula of water regards the treatment of a wound (ll. 48-49 πλήγμα|τι) presumably caused by the bite or sting of a venomous animal, like a snake or a scorpion, and refers to a long popular tradition widely attested in Egypt during the Ptolemaic and Roman Era[209]. An interesting parallel can be found in the Egyptian formulas engraved on the stele "d'Horus sur les crocodiles", attesting to the ritual

[205] A number of similar recipes described as ὀξυδερκικόν can be found *ap.* Gal., *De comp. med. sec. loc*. XII 778-779, 784-785.

[206] Miraculous healing of the blind is associated with the related healing of the woman's husband, cf. Zanetti 2004, mir. 5 Mac. § 44-55. For the magical treatment of eye diseases in this papyrus, cf. ll. 22-26.

[207] Cf. Zanetti 2004, mir. 15 Mac. § 105-114.

[208] The alternative reading of νηροῦ as a proper name (Neros') suggested by Betz 1986, 305, seems far less likely and finds no parallel neither in magical nor medical literature.

[209] de Haro Sanchez 2010, 131-153. See also Koenig 2005, 91-105; the Egyptian Stele at Cairo Museum n. 9403, 9413bis, 9427 and Journal d'Entree n. 60273; Karnak *s.n.*; at University College n. 16547; at Louvre Museum n. E 20021. Cf. *PGM* 1.1.232-247, *PGM* 1.4.154-185, *PGM* 1.3.1-164, a few Greek magico-medical papyri attesting to the use of water in rituals for the deification of animals.

power of water for the prevention and cure of similar types of wounds[210]. Lines 48-58 read as follows:

φαμμηχ : coὶ λέγω, τῷ πλὴγμα-
τι· μὴ cφύξεις, μὴ φλεγμάνεις,
μὴ ὀδυνῶν κινήcις, μὴ ὑγρὸν ποι-
ήcεις, μὴ μελανίας πο̣ιήcεις, μ[ὴ]
[c]φάκελον κινήcεις. Ἐὰν γὰρ cφύ-
ξεις ἢ φλεγμάνῃc ἢ ὀδυνῶν κινή-
cεις ἢ ὑ[γ]ρ̣[ὸ]ν ποιή[c]εις ἢ μελ[ανίας]
ποιήcεις ἢ cφά[κ]ελον κ[ι]νήcε[ις]
βω[
γ̣[
α[

48 φαμμη̣χ: α ex ε **49** cφύνξ̣ῃc, φλεγμάνῃc pap. **50** κινήcῃc pap. **50-51** ποιήcῃc pap. **51** ποιήcῃc pap. **52** κινηcεις pap. **52-53** σφύξῃc pap. **53-54** κινήcῃc pap. **54** ποιήcῃc pap. **55** ποιήcῃc, κινήcῃc pap.

"(*voces magicae* ?) I speak to you, wound: don't throb, don't be inflamed, don't cause pain, don't produce mucus, don't blacken, don't cause gangrene. For if there is throbbing, inflammation, pain, secretion of mucus, blackening, gangrene…" [211].

[210] Gasse 2004.

[211] The translation is mine and has been made on the basis of Daniel – Maltomini's edition; the English translation by R.D. Kotansky, on the other hand, explains the magic formula as referred to a remedy against headache (*PGM* XCIV 39-60): "to you I speak, pounding headache: don't throb, don't rage, don't shake the teeth, don't produce mucus, don't produce a 'black-out', don't stir up convulsions. For if there is throbbing, raging, grinding of teeth, production of mucus, producing of a 'black-out' or stirring of a convulsion … ".

Such a detailed description of symptoms given in an ascending order suits the diagnosis of a painful, discharging wound becoming gangrenous, and suggests a specific medical knowledge behind this magical text[212].

Water was considered as an efficacious healing agent in magical practices, since it is able to absorb the magical potency from sacred objects or statues and transmit it to the patients who bathed their body in such holy water.

It is important to note that several oracular requests recovered at the sanctuary of Collouthus and a number of miracle tales refer to the holy water of the saint, which was collected in small basins in the area of the *martyrium* and consecrated during church services. In particular, one of the Coptic miracles tells about a wealthy forty-year-old childless married couple who turned to Collouthus in the hope of conceiving[213]. The saint-doctor came into view suggesting that they should stay overnight in his church at Pnewit, and there he advised them to ask a priest to let them drink the holy water, the wife from the chalice and the husband from the altar or a paten (Coptic trapeza = τϱάπεζα "altar", Arabic *sīnīya* "paten" or "diskos", a liturgical plate)[214]. Once the ritual was completed, they went back home, where the woman conceived a boy who was called Collouthus. Every year thereafter they visited the shrine at Pnewit and left offerings for the saint.

Two further miracles attest to the ritual cleansing as a preparatory step or integral part of the healing process. The first one describes the intervention of Collouthus against the power of a talisman: under the guidance of the saint, a victim of sorcery washes her face with water from the cistern of the sanctuary[215]. In another case, a blind

[212] The identification between the owner of the codex and a local physician is suggested by de Haro Sanchez 2010, 144; on similar diseases in late antique iatromagical papyri, see 143f.; Daniel – Maltomini 1992, 220.

[213] For the Coptic version, see Till 1936, 179f.; Zanetti 2004, 50; for the Arabic text, see Zanetti 2004, mir. 11. Mac. § 77-80. Cf. Corazza 2018, 82f.

[214] The term poses a problem and probably implies a change in ritual practices: the original text refers to the ancient Coptic altars made of stone, that could be washed and were also provided with a groove intended to collect water, whereas the wood altars were far less suitable for these procedures. This might have been the reason why the Arabic translator preferred to generically mention a paten, cf. Zanetti 2004, 52.

[215] Zanetti 2004, mir. 14 Mac. § 88-104.

woman cleanses her face with warm water as a prelude to the miraculous healing directly performed by the saint[216].

Although the surviving text in *P.Ant.* II 66 does not provide information on the method of administration of water, i.e. whether it was poured over the body or was expected to be drunk, this evidence is significant, and a connection with the ritual practices at the sanctuary is plausible[217].

Also of interest is a brief reference to ritual cleansing contained in a prescription against demons in lines 17-21. The manuscript is severely damaged at this point and the magical procedure described in the papyrus is not clear, but the process of demonic deliverance seems to refer to the washing of bodily parts or ritual objects (l. 21 ἐλούcατο). An intervention against demons is also reported in Collouthus' miracles, but it does not involve a similar procedure: a young woman named Pelagia is released from an evil spirit in her breasts by keeping herself under the protection of a silver cross[218].

3.5.2 *P.Ant.* III 140

P.Ant. III **140** (5th-6th cent. AD; MP^3 2391.5, *LDAB* 6135)[219] preserves the top of two columns on the front and one on the back, and contains the remains of various magico-medical recipes.

The hand is probably the same on both sides, but, strangely, it appears smaller on the *recto*, and even smaller in Col. I. On a first impression, the division into columns may lead one to exclude a later addition of recipes in the upper margin; however, two signs preserved in the intercolumnium may suggest a possible rearrangement of the material, and maybe a work of collation from different sources. α is preserved in correspondence to Col. II 2: it does not seem to refer to the entire column, as stated by Marganne 117, since it is placed in the left margin and not at the top; as a numeral,

[216] Zanetti 2004, mir. 15 Mac. § 105-114.
[217] Cf. Delattre 2008, 153f.
[218] Cf. Devos 1981a, 287-289; Zanetti 2004, mir. 9 Mac. § 71-74.
[219] Barns – Zilliacus 1967, 71; Daniel-Maltomini 1992, 269-271; http://litpap.info/dclp/64896.

it may have been used, for instance, to identify the correct position of a recipe within the codex, or to distinguish a specific version of the same remedy. Otherwise, Daniel – Maltomini suggest that it is not a numeral letter, but rather indicates that we are dealing with animals whose names begin with *alpha*[220]. Written outside the column, however, it cannot be considered an integral part of the text[221]. The interpretation of the sign written below the numeral in the blank space between columns is not certain: according to de Haro Sanchez, it looks like a dot followed by a slanted stroke (·\), but it could be also a dicolon; moreover, it is dubious whether or not it is connected to the *alpha* above.

The text in the first column deals with a magical procedure possibly concerning a clay or waxen figure, used for the purpose of subjugating someone (Col. I 2 ὑποτάcαc)[222]. It is unclear whether a new recipe is introduced in line 3, marked by a blank space left at the end of the previous line; in line 4, a dot at mid-height, preceding the description of the mouse skin (δέρμα μυόc), seems to distinguish a different step of the same procedure starting at this point.

] τῷ εὐωνύμῳ πέλματι πρὸc
] ορω ὑποτάcαc —
]δωρ επ μιcθὸc δὲ τοῖc
]cται· δέρμα μυὸc λαβώ(ν)
] δὲ ἔχε ἐν ἐργαcτηρίῳ ὑπὸ
] μενον .[.]. . . . .

2 First letter: ϰ or χ Daniel - Maltomini υποτα̣c̣α̣c̣: Barns **3** Possibly]δωρω̣ . Daniel - Maltomini επ. . . . . Barns, after π possibly μφαλω **5-6** ὑπὸ | οὐδόν ? Barns

[220] Daniel – Maltomini 1992, 271.
[221] Cf. de Haro Sanchez 2010, 146.
[222] For other attestations of magical dolls and charms to subject people in iatromagical papyri, see Betz 1986, 305.

> […] under the left sole […] subjugating (?). […] reward for the […] will be (?); take the skin of a mouse […] keep it (?) in the workshop under (?) […][223].

The text of Col. I *(a)* preserves scanty indications for a preparation to be made in the ἐργαστήριον (l. 5), the laboratory for drug manufacturing[224]. Though it was not specifically medical terminology, ἐργαστήριον was used to indicate a pharmacological workshop often connected to – or even identified with – the ἰατρεῖον, according to *P.Ross.Georg.* III 2 (early 3rd AD), a letter on papyrus sent by Serenus to his mother Antonia, which contains mention of the ἰατρεῖον and the ἐργαστήριον of the physician Marcus (ll. 7-10)[225]:

> (…) ὁ ἀδελφός μου Μᾶρκος ἐν προλήψει ἐστιν πολλῇ τῇ περί τοὺς κάμνοντας καὶ τὸ ἰατρεῖον. οἶδας δὲ ὅτι οὐκ ἔστιν εὔκοπον πάσχοντας καταλεῖψαι οὐκ ὀλίγους καὶ ἐργαστήριον (…)
>
> My brother Marcus has great worries about the patients and the surgery. You know that it is not easy to leave having not few remaining sick people and the workshop[226].

The two terms are employed with *variatio* with reference to the physician's surgery. According to archaeological evidence[227], the ἰατρεῖον (as the Latin *taberna medica*)

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[223] Translation by Daniel – Maltomini 1992, 270; cf. also R.D. Kotansky *ap.* Betz 1986, 305: "[…] on the left sole of one foot, near (?) […] having subjected […] [upon?] […] and there will be a reward for the […] take the skin of a mouse […] and have in the workshop, beneath […]".

[224] Places exclusively intended for the production and trade of drugs in ancient time were presumably related to the so-called φαρμακοπῶλαι, the drug-sellers. However, very little is known about their workshops: most of them were itinerant druggists, often mistrusted because of their habit to adulterate the medical substances and to give credit to incantations and popular healing.

[225] Cf. Chapa 1998, 103-113.

[226] Unless otherwise specified, the translations are mine.

[227] An exceptional finding of such a ἰατρεῖον is the so-called '*Domus* del chirurgo' in Rimini. The building burned down in 257-258 AD, and its ruins preserved most of the objects originally contained inside the house, among which there were surgical tools as well as a number of mortars, containers of medicinal herbs, a scale, which confirm the production of medical drugs, cf. Ortalli 2000, 513-526.

was designated as a healing place generally adjacent to the physician's home, where patients had medical examinations and could stay overnight after their treatment, not intended however for accommodation proper[228]. Better than simply literary sources, the combination of archaeological and papyrological data makes it possible to compose a picture of daily medical practice involving the physician and his apprentices[229], which included not only the examination of patients and consultation of medical textbooks, but also drug manufacturing, confirming that the physician was first of all a craftsman[230]. The function of the ἰατρεῖον is not so clearly stated in the Byzantine period, but the manufacture of drugs is well-attested in the Byzantine hospitals, where pharmacists and *pigmentarioi*, the hospital druggists in charge of the care of medicines, were regularly employed [231].

The mention of the ἐργαστήριον in *P.Ant.* III 140, apparently of little significance, points to the connection between the pharmacological prescriptions listed in the manuscript and the physical space in which they were produced, setting them in a precise context.

This papyrus also contains references to other practical aspect of drug manufacturing. The terms μισθὸς "compensation" in line 3 *(a)* and ἀμοιβὰς "repayment" in line 4 *(b)* were used to indicate the remuneration paid to those who sold the medicines, i.e. drug-sellers or private physicians (Gal., *De simpl. med. temp. ac fac.* XII 293; *De comp. med. sec. loc.* XIII 96), which was requested especially when valuable drugs were concerned (cf. *e.g.* Aet. VII 104; VIII 16.76f. πάνυ κάλλιστον, διὸ παραλάμβανε τὸν μισθόν). Regrettably, the statement in the papyrus is not entirely legible, and it is impossible to say if the exact amount of the remuneration was specified.

The fact that there was only one bed in the *cubiculum* clearly suggests that the ἰατρεῖον was not meant for long-term stays; cf. Jackson 2003, 312-321.

[228] See *P.Oxy.* VIII 1088 (1st AD; M-P^3 2409, *LDAB* 4322); the term ἰατρεῖον could also indicate a physician's private practice, but there is very little evidence for this possibility, cf. Stathakopoulos 2013, 19-33.

[229] Cf. Krug 1990, 201ff.; Jackson 2008, 57-104.

[230] Cf. Jouanna 1994, 87.

[231] For the definition of *pigmentarios*, cf. *Corpus iuris Iustinianeum*, *Scholia* in *Librum LX* 39 3.4; 3.7; see Miller 2013, 199-215.

When we put these pieces of evidence together, the likelihood that the text referred to a specific workshop increases. It could be a druggist's workshop attached to a private surgery or hospital in town, or a sorcerer's laboratory[232]. However, we are not legitimate to infer from these indications neither the existence of a medical laboratory in Antinoopolis nor the provenance of the codex itself.

The second column on side *(a)* contains a short title set in *eisthesis*, possibly added subsequently in the upper margin (the first line of Col. I corresponds to the second one in Col. II), that introduces a section in which the medicinal or magical values of the blind-rat (*Spalax typhlus*) are enumerated:

περὶ ἀcπ[άλακοc
α ἀcπάλαξ ζῷον [
·\ τῆc ἱερᾶc λύc[ει
τῆν νεομηνί̣[αν
β̣ωμ[ ] . .[
πων[
[ ] [

About the blind-rat. The blind-rat is an animal […] of the holy, to deliver (?) […] the new moon […][233].

It has been suggested by the editors that both Col. II *(a)* and ll. 1-4 *(b)* might contain remedies against epilepsy. On side *(b)* the text goes as follows[234]:

[232] The doctor-magician was also a pharmacist. He collected the ingredients to use and also accompanied the preparation with spiritual concepts that would assure the efficacy of the medicine: the effectiveness of a mixture was not due so much due to the ingredients used but rather to the words recited as it was being prepared, cf. Nunn 1996, 132. Archaeological evidence documents the existence of many different kinds of buildings in or around late antique healing sanctuaries, including small churches, a bathhouse, and also shops, workshops and artisans' dwellings, where pilgrims could buy food and souvenirs to take home, cf. *e.g.* Grossmann 1986; Baird 2007, 413-438. One of the miracles of St. Collouthus contains mention of an amulet produced by a medicine man outside the sanctuary, cf. Zanetti 2004, mir. 14 Mac. § 88-104.

[233] Translation by Daniel – Maltomini 1992, 270; cf. also R.D. Kotansky *ap.* Betz 1986, 305f.: "Concerning the mole[-rat]: one (?) mole-rat that is alive […] a remedy (?) for (?) epilepsy (?) […] on the first of the month … [altar?] …".

] τόδε coι ἔcται βοήθημα κατὰ πάντων ϙω [

] αθου τρὶc μὲν τοῦ μηνὸc δοθὲν cῴζει [

] τῷ αὐτῷ τρόπῳ κ(αί) cεληνιαζομένουc κ(αὶ) [

] [ ]υτωc κατ᾽ ἀμοιβὰc διδομεν [

5 ο]υc πνευμονικοὺc π ου [

[.]

2 Fist letter: η, μ, ν, π or υ Daniel – Maltomini **4** First two letters: ε̣δ̣ ? Daniel - Maltomini **5** After π: λ̣ηγ ?; after δ̣ιδομ̣εγ: α or ο Daniel – Maltomini **6** [.] Not indicated in ed. pr.

> […] this will be a remedy for you against all […] given three times in the month it saves […] in the same way both lunatics and […] in turns given […] lung patients […][235].

In Col. II line 3 τῆc ἱερᾶc (*scil.* νόcου) is clearly distinguishable, while in line 3 *(b)* cεληνιαζομένουc "moonstruck, epileptic" is preserved. Furthermore, a connection between the blind-rat and epilepsy is significantly attested *ap.* Cyranides, a compilation of Hermetic works on natural and talismanic magic, in which occult properties are assigned to stones, plants and animals, defined by its anonymous author as βίβλοc… θεραπευτική (*prol.* 30) and first put together in the 4th century (Cyran. II, 3):

> Περὶ ἀcφάλακοc. Ἀcφάλαξ ζῷόν (…) Τούτου οὖν ἡ καρδία ἐν ἐλαφείῳ δέρματι περιαπτομένη cεληνιαζομένουc ἰᾶται[236].

The text can be referred to the genre of the collections of φυcικά "natural remedies", concerning the description of usual and unusual properties of a wide range of

[234] Cf. de Haro Sanchez 2010, 146.

[235] Translation by Daniel – Maltomini 1992, 270; cf. also R.D. Kotansky *ap.* Betz 1986, 306: "This will be a remedy for you for all cases of […]: given three times in the month it brings relief, in the same manner both to those afflicted by epileptic seizures and by […] thus by our returning thanks […] to those affected by lung disease …".

[236] Marganne 1981, 117, n. 1; for different samples of amulets in the Cyranides, cf. Waegeman 1987; Perea Yébenes 2014, 75-128.

substances, apparently far apart more rigorous medical compilations and yet highly regarded by physicians like Alexander of Tralles (cf. *infra* 3.4)[237]. In the attempt to clarify whether or not both recipes concern epilepsy, it is noteworthy that the medical terminology employed on both sides pertains to the same semantic field. In Greek magico-medical papyri, epilepsy is named in three manners, conveying respectively three different features of the disease: the first one defines the chronic illness (ἐπιληψία, ἐπίληψις); the second one qualifies the disorder according to its symptoms (πτωματισμός); the third one refers to the regular recurrence of the disease and its connection to the lunar cycle (σεληνιάζομαι)[238]. The last term, particularly attested in Christian and astrological texts[239], is the one quoted in *P.Ant.* III 140 on side *(b)*. It best conveys the popular belief about epilepsy, but probably also indicates a specific aspect of the disease. In this respect, the similar astrological reference in Col. II *(a)* 4 νεομηνί[αν "new moon" or "the first of the month"[240] does not seem fortuitous.

The last two lines on the back are barely legible and appear to contain a remedy against pulmonary diseases.

3.5.3 *P.Ant.* III 132

P.Ant. III **132** (MP^3 2391.2, *LDAB* 6320)[241] consists of three fragments originally belonging to a 6th century papyrus codex, in which medical prescriptions have been preserved along with an inventory of natural substances and their relative properties. The manuscript is written in semi-cursive handwriting and has been preserved in poor

[237] Guardasole 2004. It is worth noting that a similar collection of φυσικά is preserved also in *NN* 16-12-2013 (see *infra* § 3.6), one of the two medical papyri recovered in the area of the Northern necropolis at Antinoopolis, cf. Del Corso – Pintaudi 2015, 6-17. Such correspondence between this text and *P.Ant.* III 140 seems to confirm the commonality of the medical practice held at Collouthus' sanctuary and the medical institutions in town.

[238] Cf. de Haro Sanchez 2010, 152.

[239] The term σεληνιαζομένους occurs only once in medical literature *ap.* Thessalus, *De virtutibus herbarum* I 8.3.2, cf. *P.Johnson* + *P.Ant.* III 214.

[240] On the possible supplement νεομηνί[αν κατὰ θεόν and relative translation, cf. Daniel – Maltomini 1992, 271.

[241] Barns – Zilliacus 1967, 66f.; http://litpap.info/dclp/65079.

condition, with its surface scratched in several places and traces of writings partially faded, especially in fragment 1 *(b)*. The remains of frr. 2 and 3 are too scanty to be satisfactorily restored.

Its content has been classified by the first editors as 'apparently *materia medica*', and was later placed by Marganne among magico-medical texts without any additional information[242]. The section concerning the inventory of plants can be compared to the herbal genre which circulated in late Antiquity divided into two main typologies, namely the description of plants with the indication of their δύναμις, and the botanical glossary containing a list of plant names in alphabetical order associated to Greek, Latin or Arabic synonyms[243].

The papyrus text combines characteristics of both models: it contains a brief description of medical properties and lexical references for each entry, but it is not an alphabetically ordered glossary. We are apparently faced with informal notes possibly gained from more systematic medical treatises and rearranged according to personal criteria.

Fr. 1 is divided into short sense units, and each section begins on a new line. As far as can be observed, divisions are marked by *paragraphoi* (l. 6 *(a)*) or a series of small *antisigmata* (ll. 2, 4, 6 *(a)*; 10 *(b)*), sometimes combined with horizontal strokes (ll. 6, 8 *(b)*), and blank spaces. In one case (l. 6 *(b)*), the section end is also marked by the *tau-rho* staurogram, also attested in other magico-medical recipes on papyrus, cf. *e.g.* *P.Oxy.* XI 1384 (6th AD; MP^3 2410, *LDAB* 3237) ll. 2, 15, 23, 32, 34.

On side *(a)*, the papyrus text seems to describe the medical and magico-medical properties of a number of substances:

]τας [ ] α εχ [
]εσθω [ὁ] πάσχων ○○○[
] καλουμένη πασιθέα [

[242] See Marganne 1984, 117 n.6. However, the magico-medical content is not mentioned in Marganne 1981, except for a brief remark on l. 3, 108f., nor in Mertens-Pack^3 online Database (MP^3 2391.2).

[243] Cf. Ieraci Bio 1982, 38f.

] κ(αὶ) ιαν ἐν φθόνῳ ○○○○○○[

5 κ]αλουμένη βο̣ύβ̣αστις τὰ φύ[λλα

]ω ν κατ’ ἀρτηρίαν καˡιʳ[[ι o]]όμενα δε[

] —— [

ο]ἱ δὲ καλοῦσιν αὐτήˡ·ʳ σελ̣ή̣[νιον

] φ σιν ἐν οῤˡνιʳ[[θ]]ˡεʳι̣σιν εμ[

]τητα[ ] ποιεῖ ○○○

1 after τας: down stroke, α: μα, να Barns **4** κα]λ̣ο̣υ̣σι ? Barns **5** β̣ο̣υβ̣αστις ? Barns **6** ν: ρ̣ον ? Barns **7**]ιδε σελ̣η̣[Barns **8** over η: trace only Barns **9**] :]ο ?, ἐν οῤ[[θ]]ισιν (ν ι ε) Uncertain whether θ altered to ε or vice versa Barns

In the second and possibly the third section, a magical connotation can be recognized in two plant names[244]. The first one concerns the term πασιθέα, quoted in line 3 and only twice attested among papyrus and literary evidences. It refers to a plant designed as a remedy against envy[245]: φθόνος often carries this meaning, but also indicates a supernatural force with an ill-intent, properly ‘malice’ or the ‘evil eye’, that needs to be controlled by *apotropaia*.

This plant name occurs in a magic formula in *PGM* XII, a papyrus codex dating from the end of the 3rd century preserving a collection of magical and alchemical prescriptions[246]. The root of πασιθέα, as an alternative to that of *Artemisia*, is used to inscribe magical words whose repetition ensures that the person will become

[244] Corazza 2018, 83-85.

[245] Mention of]φθονον[apparently also occurs in *P.Ant.* III 131 (6th AD; MP^3 2353.2, *LDAB* 6313) fr. 6 *(b)* 2, but the fragmentary condition of the artefact does not allow any reconstruction of a wider context. A single word out of the context is not sufficient to infer a magico-medical content for this papyrus. Moreover, the alternative supplement ἄ]φθονον [“enough” might conceivably indicate a pharmacological prescription.

[246] *PGM* XII 397-399: Πρὸς ἐπιχάρειαν καὶ φιλίαν διὰ παντός· λαβὼν ῥίζαν πασιθέαν ἢ ἀρτεμισίαν ἐπίγραφε τὸ ὄνομα τοῦτο ἀγνῶς ?????????L καὶ φόρει, καὶ ἕξῃ καὶ ἐπίχαρις καὶ προσφιλὴς καὶ θαυμαστὸς τοῖς ὁρῶσί σε, “to gain favor and friendship forever: take a pasithea or wormwood root and write this name on it in a holy manner: (*vox magica*). Then carry it, and you will be an object of favor, friendship, and admiration to people who see you”, translation by Hubert Martin, Jr *ap*. Betz 1986, 167.

charming, pleasing and admirable. The purpose and the method of use of the ingredient appear completely lacking any medical component.

The term πασίθεα is also found in Dioscorides, *De mat. med.* III 140, where it is qualified as a synonym of παιωνία ἄρρην = γλυκυσίδη, "peony" (*Paeonia officinalis*), a flowering plant named after Paeon, the Greek physician of the gods[247]. Another synonym of παιωνία quoted in Dioscorides' passage, i.e. σελήνιον, might occur in line 8: the particle δὲ before καλοῦσιν αὐτή might indicate an alternative denomination for the same plant. However, the arrangement of the text and the mention of another substance inserted between the two possible references to peony might suggest separate items[248].

The examination of cross-references in Dioscorides enables us to obtain more information and possibility for comparison. The medical properties associated with the peony are listed in a specific chapter *ap.* Dsc. XI 2.164[249]. It is well-recommended for protecting from danger and disease, and it is considered effective against βασκανία "malign influence, jealousy" similarly as in *P.Ant.* III 132, where πασιθέα is used as a remedy against malice, envy (l. 4 ἐν φθόνῳ).

The magical character of πασίθεα is thus attested both by *P.Mag.Leid.* V 12 and Dioscorides, but there is a certain difference in its conditions of use. While in the former case the peony is used as an instrument in a magic ritual, in the latter no magic

[247] Dsc. III 140: παιωνία ἄρρην ἢ γλυκυσίδη· οἱ δὲ πεντόροβον, οἱ δὲ ὀροβάδιον, οἱ δὲ ὀροβάξ, οἱ δὲ αἱμαγωγόν, οἱ δὲ πασιθέη, οἱ δὲ μηνογένειον, οἱ δὲ μήνιον, οἱ δὲ παιώνιον, οἱ δὲ Πανὸς κέρατα, οἱ δὲ Ἰδαίους δακτύλους, οἱ δὲ ἀγλαοφώτιδα, οἱ δὲ θεοδώρητον, οἱ δὲ σελήνιον, προφῆται σεληνόγονον, οἱ δὲ φθίσις, Ῥωμαῖοι κάστα.

[248] The alternative supplement σέλι̣ν[ον "celery, *Apium graveolens*" might be supposed at this point. For a possible connection between σέλινον and ἐν ορ̣νι̣[[θ]]ος ? (στέατι, κρέατι) in line 9, cf. *e.g.* Orib., *Syn ad Eust.* IX 11.3; Paul II 44.1.

[249] Dsc. XI 2.164: ἀπελαύνει καὶ θηρίων ἰοβόλων ἀπειλὴν οἰνομέλιτι διδομένη, ῥύεται δὲ καὶ τοὺς ἀπὸ φαρμάκων δηλητηρίων προειλημμένους ἐσθιομένη· φορουμένη δὲ οὐκ ἐᾷ τινα τῷ φοροῦντι προσενενέγκαι δηλητήρια· ἐκπίπτει γὰρ ἀπὸ τοῦ προσάγοντος. τιθεμένη δὲ ἐν χωρίοις ἀποστρέφει χάλαζαν καὶ ἰριούβας καὶ μεγάλους χειμῶνας. καὶ ἐν πλοίοις δεσμουμένη ἀποδιώκει γνόφονκαὶ κίνδυνον τοῦ βλάπτοντος ἀστέρος. διατηρεῖ δὲ πάντα ἄνθρωπον ἄνοσον φορουμένη, ἀποτρέπει καὶ λοιμικὴν νόσον, καὶ πᾶς αὐτὴν δαίμων φοβεῖται καὶ φρυάσσει· ἀνάκειται γὰρ τῷ ἀρχαγγέλῳ τῷ ὄντι τεταγμένῳ ἐπὶ τῶν δαιμόνων. ἰᾶται δὲ καὶ πάντα ἄνθρωπον ἀπὸ μολυσμοῦ καὶ προχυμάτων καὶ βασκανίας. ῥύεται δὲ καὶ πάσης νόσου καὶ ἀπειλῆς ἀέρων ἐν ὁδῷ. For magical amulets made with the root of the peony, cf. Aet. I 48; Paul VII 3.3; see also Ferraces Rodríguez 2009, 147-170.

ritual appears to be involved; mixed with other substances (i.e. honey, water, wine, oil), the peony could be used as a medical ingredient also for the treatment of physical diseases (i.e. liver ailments, affections of the spleen, gallstones, fever, cf. Dsc. XI 2.165.2ff.). Though no literal correspondences with such passages can be found, the text in *P.Ant.* III 132 seems to better fit Dioscorides' text than *P.Mag.Leid.* as regards the following: (1) the purpose, since it is explicitly presented as effective against envy, rather than a procedure for acquiring charm; (2) a certain interest in terminological matters, suggested by the expression καλουμένη παιθέα in line 3, similarly occurring also in ll. 5 *(a)* καλουμένη and 8 *(a)* καλοῦσι, which could refer to the wide nomenclature recorded *ap.* Dsc. III 140. The interest in etymology and synonyms is characteristic of late antique medicine, and, apart from glossaries, it is evident in recipe literature and medical treatises in which a particular attention was paid to magical ingredients, often unconventionally named in order not to be understood by anyone[250].

The second magical element found in *P.Ant.* III 132 is not beyond doubt, as the surface of the papyrus has worn away at this point. It concerns the term βούβαστις supplemented in line 5. It refers to the name of the Egyptian city located along the Nile in the Delta region of Lower Egypt, sacred to the goddess Bastet, whom the Greek called Boubastis and identified with Artemis-Diana[251]. βούβαστις is quoted in a number of Graeco-Roman inscriptions[252], and particularly in two magical papyri, where the divine name occurs in magic formulas whose meaning remains obscure. In one case, it is inscribed on a drinking-cup and concerns an invocation of the Graces and Aphrodite; in a second one, it refers to a supplication to Boubastis identified as Isis, considered by the Egyptians as the discoverer of many health-giving drugs and

[250] Among the Antinoopolis medical papyri the interest in medical vocabulary is attested also by *P.Ant.* III 127, fr. 1 *(b)*, cf. *supra* § 3.4.

[251] Cf. Herod. II 59; Heyob 1975, 70.

[252] Cf. Preisendanz 1928, nn. 7 and 30f.; Heyob 1975, 70f.; in an inscription from Hyampolis there is a mention of the *Boubastia*, the festival of Isis-Bubastis instituted during the period of Trajan's reign, cf. *IG* 9.1.86.

greatly versed in the science of healing[253]. According to Diodorus, Boubastis is likely to have been was one of the names of Isis[254], and in the language of the priests she was also defined as her daughter. The role of Bubastis as goddess of fertility and her connection with Isis is attested by several Hellenistic terra cotta figurines, and several inscriptions provide further evidences of the special interest that women took in Isis-Bubastis[255].

It seems likely that βούβαστις in *P.Ant.* III 132 refers to a plant-name[256] since κ]αλουμένη βούβαστις τὰ φύ[λλα repeats the expression καλουμένη πασιθέα in line 3, and the association of the name of the goddess to a plant might be supported by the restoration τὰ φύ[λλα at the end of line 5[257]. The alternative interpretation of βούβαστις as "groin" (cf. Aet. IV 21.13 τὰ τῆς βουβάστεως ἕλκη) is less plausible. No correspondence can be found between the papyrus text and Aetius' prescriptions against groin diseases; moreover, its masculine gender according to Liddell-Scott-Jones (LSJ) would not match the feminine κ]αλουμένη in the papyrus, which it should refer to[258].

Pseudo-Apuleius (*de Herbis*, 4th-5th century AD) records a list of names assigned to the bitter plant *artemisia monoclonos* and provides useful information for the

[253] Diodorus Siculus I 25.2-3: φασὶ δ' Αἰγύπτιοι τὴν Ἶσιν φαρμάκων τε πολλῶν πρὸς ὑγίειαν εὑρέτιν γεγονέναι καὶ τῆς ἰατρικῆς ἐπιστήμης μεγάλην ἔχει ἐμπειρίαν. For Boubastis as Isis possible undergoing syncretism with Bastet, see Vandebeek 1946.

[254] Diodorus Siculus records that a stele on the tomb of Isis at Nysa in Arabia bears an inscription attesting to the direct connection between Isis and the city of Boubastis, which was built by the goddess and therefore consecrated to her, cf. I 27.4.10: […] ἐμοὶ Βούβαστος ἡ πόλις ᾠκοδομήθη […].

[255] Cf. Heyob 1975, 70.

[256] This restoration was first suggested by Barns; however, βούβαστις was considered unknown as a plant name, cf. Barns – Zilliacus 1967, 67.

[257] For Ἶσις as a plant-name, cf. Plu. II 939d; Plin., *Nat. Hist.* XIII 142. Ἶσις is attested also as the name of a plaster by Galen, who recorded it among the 'holy plasters' invented by the priests of a temple: *De comp. med. per gen.* II 12. XIII 518.7-9: τὴν ἐνδοξοτάτην τῶν κιῤῥῶν, ἣν ὀνομάζουσι διὰ δικτάμνου τῶν ἱερῶν ὀνομαζομένων καὶ αὐτὴν, ὥσπερ ἡ ἶσις, ἐπειδή φασιν αὐτὰς ἐκ τῶν ἱερῶν τῶν ἐν Αἰγύπτῳ κομισθῆναι. For other examples of divine names associated with medicinal plants, cf. *e.g*. Thessalus, *De virt. herb.* II 7.

[258] The gender of βούβαστις "groin" is controversial; ἡ βούβαστις occurs in Aetius and in the Diccionario Griego-Español (*DGE*).

identification of our plant: *Artemisia* was called in fact also *Boubasteos cardia*[259]. This evidence gives us Boubastis for the name of an aromatic plant largely employed in both ancient Egyptian and Greek medicine for its magical and medical properties. Effective against tiredness, intestinal diseases, and foot pain, the *artemisia* was also recommended against supernatural forces like demons and the evil eye[260], and was known as *filacterion mega*. Magic played an important role in the Egyptian medical practice, especially among the priests, who mostly assigned the effectiveness of medicinal plants to the power of the god. Pseudo-Apuleio's text contains a reference to the Egyptian priests (*h. artemisia* = *profetae ema antropu*) and it is conceivable that this plant was named after the goddess Boubastis by them.

Though some forty to fifty plant remedies still remain unidentified in Egyptian pharmacology[261], and the healing power of the plant cannot be gathered from *P. Ant.* III 132, the identification between the 'Boubastis plant' and this species of wormwood is a conceivable assumption[262]. A connection between the name of the goddess and Egyptian medicine seems to be confirmed by the physician Iuny's title: "he who knows the secrets of Boubastis's chest", with reference to the surgical and medical instruments contained in the pharmaceutical department attached to the Houses of Life in which medicines were prepared[263]. The reference to Boubastis in

[259] Ps.-Ap. X 43.16: a Graecis dicitur toxotis, alii Ias, alii Efesia, alii aristolochia (?), alii partenicon, alii apolissos, alii anacirios, alii sozusa, alii leucofris, profetae ema antropu, alii + ceetyssice, alii onychantes, alii rizanaytes (?), alii theon esis, alii Bubasteos cardia, alii osta antropu, alii ema Cronu, alii gonos Efaestu, alii filacterion mega, Aegyptii aneses, alii neiasar, Pythagoras + pexasis, alii toxobulos, Galli titumen, Ostanes …, Daci zired, Itali serpullum maius, alii ualentia, Romani artemisia.

[260] Ps.-Ap. X 42.1: herba artemisia, si quis iter faciens eam se cum in manu portaverit, non sentiet itineris laborem. Fugat et daemonia et in domo posita prohibet mala medicamenta, cf. Boscherini 2007, 117s.

[261] At present, a cross-referenced work on pharmacological ingredients has been pursued by the Pharmacy of Ancient Egypt Project at the KNC Centre in Manchester, in an effort to identify the 'unknown' plants referred to in medical papyri and their active substances, cf. Veiga 2009, 10.

[262] According to Pliny, the Seriphium of Taposiris, a variety of sea-wormwood, was carried during the processions of Isis by her devotees, cf. *Nat. Hist.* XXVIII 7: Est et Absithium marinum quod quidam Seriphium vocant probatissimum in Taposiri Aegypti. Huius ramum Isiaci praeferre solemne habent: angustius priore, minusque amarum, stomacho inimicum, alvum mollit, pellitque animalia interaneorum. Bibitur cum oleo et sale, aut in farinae trimestris sorbitione dilutum coquitur, quantum manus capiat, in aquae sextario ad dimidias.

[263] Cf. Halioua – Ziskind 2005, 24.

this papyrus likely attests to a significant connection with the Egyptian medicine derived from the expertise of the temple priests. Pseudo-Apuleius

As far as fr. 1 *(b)* is concerned, a few ingredients (l. 5 c]ελίνου; l. 6 κεραcac; l. 7 οἴνου, οἶνοc; l. 9 cελ[ί]νου), and further instructions (l. 5 τρίψ "rub"; l. 7 ἕψητ[αι "boil") are preserved, but it is impossible to state what kinds of recipes it contained. The medical text appears concise and does not contain many details regarding the dosage or the conditions of use. No units of measurement survive, and in most cases the prescriptions do not exceed the length of two lines. It cannot be excluded that this arrangement of material was used to provide condensed information to apprentice doctors, or quick reminders to practitioners.

3.5.4 *P.Johnson* + *P.Ant.* III 214

Different characteristics can be recognized in *P.Johnson* + *P.Ant.* III **214** (MP^3 2095, *LDAB* 5828)[264], a high quality codex dating from the 4th-5th century AD that preserves the remains of an illustrated herbal.

The revised edition by Leith has led to the identification of textual correspondences between this papyrus and the Hermetic work *De virtutibus herbarum* (*de plantis duodecim signis et septem planetis subiectis,* the title in full) by Thessalus Trallensis (1st AD), which contains the recordings of medical and magico-medical applications to 19 zodiacal and planetary plants.

P.Johnson + *P.Ant.* III 214 shows a close dependency on the *De virtutibus herbarum* as regards both the content and the arrangement of materials; yet, it is not a mere copy but a condensed version of this short astro-botanical treatise. In a few places, in fact, the astrological material has been removed altogether, and the pharmacological sections reorganized in a different manner. Especially the codex provides information on medical uses rather than plant descriptions, and the astrological material is simply in keeping with the role of a theoretical framework.

[264] Cf. Barns – Zilliacus 1967, 182f.; Leith 2006, 141-156; http://litpap.info/dclp/64598.

Although the papyrus content is chiefly therapeutic, the Antinoopolis Herbal lacks detail concerning the method of preparation and quantities of ingredients. As a consequence, it should not be considered useful for practical medical purposes, but rather as an elegant exemplar conceived for its aesthetic value.

A few considerations on the author of the *De virtutibus herbarum* can be stated. In the edition by Hans-Veit Friedrich, a distinction is made between two main ancient versions of the text, namely "Der Thessalostext" and "Der Hermestext", preserved both in Greek manuscripts and Latin translations[265]. The introduction to the treatise is differently transmitted in these two versions; in the first case, it consists of a letter from Thessalus to an unidentified Roman Emperor, and contains extensive information on Thessalus' education in his early years, when he came to Alexandria from Anatolia to attend grammar classes and to be trained by 'dialectic' doctors, regarded as the predecessors of the iatrosophists. Coming into possession of a book on therapeutic plants by Nechepso, a legendary Egyptian figure whose name is linked to an influential set of astrological texts in Antiquity, but being incapable of using it properly, Thessalus turned to Egyptian magic, and eventually succeeded in being received by Asclepius himself. Far from disregarding the authority of Nechepso, considered to be a wise man provided with all virtues (ἀνὴρ σωφρονέστατος καὶ πάσῃ κεκοσμημένος ἀρετῇ), Asclepius offered the additional knowledge that enabled him to establish a connection between the properties of plants and calendaric and astrological data[266].

The astro-botanical treatise preserved by *P.Johnson* + *P.Ant.* III 214 seems to show how Greek medicine found support in the existing local tradition based on astral influences, widespread in the Egyptian *chora* and well-documented in the magico-medical papyri of late Antiquity[267]. In particular, a polemical reference by John of Alexandria (*fl.* 600-642 AD) to Thessalus' 'unscientific' medical education received

[265] Cf. Friedrich 1968. For "Der Thessalostext", cf. mss. T, *Matritensis Bibl. Nat.* 4631 (15th AD); M, *Montepessulanus fac. med.* 277 (14th AD); P 1528; and V, *Vindob.* 3124 (15th AD); for "Der Hermestext", cf. mss. F, *Monacensis* 542 (16th AD); B, *Par. gr.* 2502 (16th AD); H, *Vind. med. gr.* 23 (16th AD); G, *Leidensis Voss.* 8° 19 (16th AD); and L, *Londiniensis Regius* 16 C II (15th AD).

[266] Roselli 2017, 41-53.

[267] Cf. Nutton 2004, 268-270.

in Egypt, contained *ap.* Gal., *In Hipp. Epid. VI comment.* VI 8.7, might offer some information about the perception of this work in the Byzantine Era[268].

3.6 Conclusions

Let us now come to some overall considerations that can be drawn from the present survey.

Firstly, the magico-medical papyri discussed so far point to a great influence of the Egyptian tradition on the medical practice in Antinoopolis. It involved the entire sphere of medicine, both professional and ritual, and can be recognised on a macro-level especially in the oracle procedures and rites of divination developed at the shrine of St. Collouthus. Besides the archaeological evidence mentioned in the first part of this chapter, the magico-medical papyri display, better than other Antinoopolis medical texts, varying degrees of continuity with local forms of healing.

It must be considered that the evidences gained from the selected texts are not all of the same value with respect to this particular context. In a few instances they include elements that, though originated in the Egyptian medical culture, soon entered the practice of Greek physicians insomuch as they could have been no longer perceived as exotic or somewhat extraneous to the common tradition. This is the case of some pharmacological substances labelled as Egyptian that occur in a number of medicines recorded in the Hippocratic writings around the 5th-4th century BC. A few illustrative examples are found in *P.Ant.* III 127, in which the use of papyrus for medicinal purposes is attested (fr. 2 *(b)* 5), and the excrement therapy is assumed for the preparation of a healing charm (fr. 3 *(b)*).

On a different level, an interesting but not unquestionable piece of evidence is *P.Johnson* + *P.Ant.* III 214. The manuscript tradition of Thessalus' *De virtutibus herbarum* ascribes the content of this astro-botanical treatise to a combination of Egyptian and Greek medical culture. According to the polemic reference to this 'unscientific' treatise by John of Alexandria, who particularly emphasises the

[268] Roselli 2017, 41-53.

Egyptian educational background of its author, it might be supposed that the Egyptian component of this text was clearly perceived in late Antiquity also at the time of the papyrus copy. Nonetheless, the anonymous re-elaboration of the material and the possible removal of the astrological references might imply a change of perspective, affording us valuable insights into the dynamics of cultural transformation (cf. *infra* § 4.2).

Other elements reveal a more genuine influence of local medical practice, and also a connection to this particular context. An intriguing example is the plant-name βούβαστις occurring in *P.Ant.* III 132 and not otherwise attested in Greek texts. The entire passage on the *recto* was conceived for the correct identification of medical substances and their properties, and the name of the Egyptian goddess is associated to a medicinal plant (perhaps a variety of *Artemisia absinthium*) presumably known under multiple names. This text is likely to refer to a terminology in use among the local practitioners and drug-sellers and illustrates an important aspect of Byzantine *materia medica* concerning the profusion of synonyms, Greek and non-Greek alike, for a single substance, addressing the question of Egyptian loan words for products or preparations used in the Greek pharmacopoeia[269]. Additionally, it is worth noting that the local cult of Isis-Boubastis is also testified by the ruins of a temple consecrated to Isis unearthed not far from the *kîmân M* and *N*, where the Antinoopolis medical papyri were discovered.

The Egyptian medical tradition also emerges in the 'fresh (water)' formula preserved in *P.Ant.* II 66, 44-61. As has been shown, not only does it refer back to a long-standing tradition of magical prescriptions in Egypt, but it also reflects a ritual practice connected with the temple medicine since the pharaonic period and is well-attested at Collouthus' shrine. This evidence is particularly significant as it leads us to

[269] Egyptian, Eastern and Arabic drugs and plant names frequently occur in Byzantine books on therapeutics, either translated or simply transliterated into Greek. As a result of this linguistic admixture, various problems arose concerning the vocabulary of *materia medica* and correct identification of ingredients was indeed a medical matter, could by mistake result in a pharmacological substance with the wrong powers being administered to the patient, cf. Stannard 1984, 207f.; Touwaide 2000, 211-228.

consider a second important point of this survey, i.e. the possible connection between these iatromagical texts and the sanctuary in town.

A comparative examination of the miracles of St. Collouthus and the magico-medical prescriptions on papyrus shows that they are consistent with each other in many respects, and I have counted a number of resemblances in the typologies of disease as well as in the treatment. I think these parallels are striking; however, they cannot conclusively attest to an immediate connection with the cult of the saint. These two categories of texts do not correspond in the details and, other than the 'water' formula, nothing else specifically links these papyri to the sanctuary.

Thirdly, a few considerations have to be added on the genres and usage of these papyri. As we have seen, *P.Ant.* II 66 and *P.Ant.* III 140 are recipe books primarily meant for a practical use, providing precise, clear, well-organized instructions. They are homogeneous in content and have a strong magical connotation, although in a few cases the use of different sources and a specific medical knowledge should be contemplated. Because of its poor condition, *P.Ant.* III 132 is less likely to be clearly classified by genre. It preserves both an inventory of medical ingredients and pharmacological prescriptions, and can be regarded as a functional handbook.

By contrast, *P.Ant.* III 127 and *P.Johnson* + *P.Ant.* III 214 were conceived as reference books and high quality library copies. Though containing a list of medicinal plants like *P.Ant.* III 132, *P.Johnson* + *P.Ant.* III 214 represents a different typology of text, in which the magical component lies in its literary tradition rather than in the content proper. Likewise, according to its formal structure, the magico-medical text in *P.Ant.* III 127 is not likely to be a temporary piece of writing essentially intended for practical use. Alexander's passages in fr. 3 have, in fact, been copied along with their introductory headings, which contain no additional instructions for the manufacture of the remedies listed below. The magical content in this text not only adds to conventional medical material, but also seems to have been assimilated to a more serious discourse, representing the extreme effort by the physician to give relief to the sick when traditional cures are rejected.

Even so, it must not be forgot that the magico-medical procedures in *P.Ant.* III 127 are similar in all respects to those described in *P.Ant.* II 66 and *P.Ant.* III 140. The difference in their magical content is not a matter of nature but of degree. In this sense, it could not be excluded that they were used for different functions, *e.g.* as study books or practical manuals, within the same context.

This study finally poses central questions about the belonging of the Antinoopolis medical papyri to a specific collection. A collection is opposed to a casual assemblage of texts. Like documents, literary papyri are not usually found in isolation, and one should try to assess whether a number of books were originally conceived as part of the same library, and possibly what circumstances caused this particular collection to exist. Research of this kind would tell us something specific about the nature and reason for the existence of each papyrus.

The medical papyri excerpted from Antinoopolis and approximately dating from the same time frame testify to a homogeneous finding of books, although they were recovered in a rubbish deposit where there is no archaeological evidence of any remains of a building. They preserve a large variety of texts including treatises from the Hippocratic Corpus, medical compilations and recipes with discussions, which state an accurate, critical attitude towards the *materia medica* and attest to the seriousness with which physicians practiced their medicine in Antinoe[270].

On the strength of these assumptions, the notion that the Antinoopolis medical papyri belonged to a specialized library has been regarded as a conceivable hypothesis. Roberts has suggested that these texts belonged to a local medical school characterised by its own textual tradition[271], and substantially the same assumption has been made by Marganne[272], whereas Nutton is inclined to believe that they belonged to the private library of a doctor, and argues that "(the Antinoopolis medical papyri) should not be regarded as forming the products of a 'medical school at Antinoopolis', for they could come from the library of a single physician. The

[270] Hanson 2010, 187-204.
[271] Roberts 1950, 70.
[272] Marganne 1984, 117-121.

presence of doctors does not indicate the existence of either a teaching establishment or of a unified body of doctrine, and medical schools, with their modern implications, should not be multiplied *praeter necessitatem*"[273].

It is undeniable that the characteristics of a few codices point to study copies possibly based on scholarly lectures, not dissimilar from the medical teachings held at the schools of Alexandria and, according to the cultural environment of Antinoe, a medical school might have existed in connection with a hospital foundation in town[274]. However, the magical content of *P.Ant.* II 66 and *P.Ant.* III 140 has been substantially regarded as a sign of eccentricity with respect to the other medical papyri, and as one of the main points of evidence against the assumption that the whole assemblage was part of a school library[275].

With respect to the Antinoopolis papyri and their archaeological context, it has been noticed that no medical texts appeared to have been found during the Italian excavations in the peripheral areas of the town, in proximity to the healing sanctuary and the northern Necropolis, but they were all excerpted in a separate site within the urban walls[276]. The absence of texts referring to the Hippocratic and traditional Graeco-Roman medicine in this extra-urban area was originally explained as the sign of a radical distinction between two spheres of influence in the medical practice, respectively related to the cult centre of Collouthus and the traditional medical environment in town. It has been assumed that, with the adfirmation of the Christian cult of the saint, hellenistic medicine was progressively abandoned in favour of religious practices[277].

Recent evidence, however, points in the other direction. The remains of two medical codices containing natural remedies and prescriptions only recently considered for publication, namely *PSI Ant.* Inv. NN 16-12-2013 and *PSI Ant.* Inv. 320 A, were recovered not far from the sanctuary dedicated to Collouthus (cf. *supra* § 1.1). These findings attest to the continuity between professional and temple medicine in

[273] Nutton 1983, 97.
[274] Andorlini 2003; see *infra* § 1.2.
[275] Cf. Marganne 1984, 117-121; Hanson 2010, 187-204.
[276] Cf. Minutoli 2008, 75-99, and Fournet 2009, 115-132.
[277] Fournet 2009, 128-129.

Antinoopolis, and lead us to consider a more complex combination of traditional medicine, magical belief and ritual healing rather than a neat opposition between them. In this perspective, particularly significant is the dating of such texts, which have been assigned the 3rd century AD. Provided that *martyrium* functioned mostly between the 5th and 8th century AD, one has to assume a long usage and accurate preservation of these medical books on the basis of their acknowledged value to the care and healing of the sick[278].

Though the existence of a local medical school is still controversial, it is hoped that this overview of the magico-medical texts has shown that they do not invalidate the hypothesis that these findings share a common belonging, but possibly define the peculiarities of the collection to which they could belong. They do not necessarily represent a separate typology of material originating within a specific – and presumably less literate – context, accidentally excavated in conjunction with canonical medical texts. Besides being an expression of the folk tradition well-documented in town, they should also be regarded as a product exposed to contamination by an essentially 'scientific' medical environment.

For the moment, the question of the original circumstances in which the magico-medical papyri examined so far were produced remain undecided. Nonetheless, they undoubtedly attest to the high level of commonality among different medical traditions. What is lacking is conclusive evidence, for instance a greater number of medical manuscripts from this site with clearer examples of healing practices attributable to the cult-centre of Collouthus.

[278] Del Corso – Pintaudi 2015, 6-17.

CHAPTER FOUR

The miscellaneous codex

4.1 Technical texts and the transmission of medical knowledge

The absolute majority of the Antinoopolis medical texts have been copied in the codex book-style format. Twenty-seven out of thirty manuscripts are in codex form, and are all on papyrus with the only exception of three parchment codices[279].

The strict predominance of this bookform coincides with the prevalence of the codex at the expense of the roll in late Antiquity, starting in the 2nd century AD and determined by both practical and ideological reasons[280]. Originating among individuals and communities geared toward social emancipation, the earliest codices were associated with semi-literary and 'popular' genres (school texts, technical handbooks, Hellenistic novels) and circulated among the middle class as low-quality products, conceived as texts of practical utility rather than copies for a library. This format was later adopted, particularly from the 4th century AD onward, for higher quality copies especially when made of parchment[281], and gradually made its way into the medieval Mediterranean world.

Any structural and functional modification of this bookform over time may reflect the transformation of the cultural environment and its instruments, and valuable insights into the reading public of the manuscripts can be gleaned from their production and

[279] *P.Ant.* III 140 is doubtfully regarded as a papyrus sheet (opisthograph) or codex, similarly as *P.Ant.* III 137r, while *P.Ant.* III 138r is a papyrus roll. *P.Ant.* I 28, *PSI Ant. Inv.* NN 16-12-2013 and *P.Ant.* III 133 are parchment codices.

[280] The close connection between the physical arrangement of texts and the cultural environment and transmission of knowledge in Late Antiquity as regards the circulation of the codex has been well pointed out by Roberts – Skeat 1983; Cavallo 1985. For physical features of early codex, see Turner 1977; for its practical characteristics (manageability, affordability, easy-reference) and fortune, cf. also Blanck 1992.

[281] Only few extant parchment codices are dated before the 4th century AD, but no generalisations should be based on the argument *e silentio*. On the question of the priority of parchment over papyrus or *viceversa* in the development of the codex form, cf. Turner 1977, 37ff.

intended use. Formal conventions are shaped by social and cultural functions, and we should try to explain texts by asking for what purposes they were written and how specific manners of writing further the personal aims of the writers.

The development of the codex throughout these centuries can be observed in a number of respects. One of the most significant concerns how the texts were assembled and presented, namely the interplay between container and content. Especially the manuscripts from Antinoe point to a combination of materials resulting from (1) the inclusion of marginal annotations and (2) the collection of different texts within the same codex; for this reason, they are excellent case studies when examining early Byzantine technical copies. Produced between the 4th and 7th centuries AD, they provide striking evidence of the material transmission of knowledge at the turning point between late Antiquity and the Early Middle Ages.

My inquiry aims to investigate the miscellaneous books from a descriptive and cultural perspective, and attempts to outline the usage and context of these texts by examining their physical characteristics. Important aspects under scrutiny include: size, material, layout, style of writing, and lectional signs with regard to their content and genre[282]. In particular, this study contributes to the ongoing scholarly debate on the miscellaneous codex by offering an analysis of a definite assemblage of manuscripts. Diachronic research has been conducted on miscellaneous books and methodological guidelines have been closely defined, but there have been noticeably fewer studies on particular categories of miscellaneous texts assigned to a limited time frame.

In what follows, I will seek to establish: (1) to what extent and with what peculiarities miscellaneous medical codices are attested among the texts I have considered; (2) what conjectures can be made about their reading public and purposes, based on the evidence we have.

[282] On the internal and external criteria for the classification of Greek medical books, cf. Marganne 2004, 86-88.

Before proceeding with the analysis of the texts, a few terminological and methodological points need to be discussed.

I shall begin by explaining the choice of term(s) for defining the subject of my discourse. From a terminological perspective, a univocal and generally accepted definition of this typology of manuscripts has not yet been established. The polarity between 'unitary' and 'miscellaneous' books first introduced by Petrucci[283] was, in fact, rejected by Maniaci, since 'miscellaneous' has been perceived as basically content-oriented with no reference to the formal aspect, and therefore unsuitable as a counterpart of the 'unitary' book. The adjective 'miscellaneous' was initially replaced by 'non-unitary', but this term poses problems, since it is potentially ambiguous and may refer both to the material and the textual aspect[284]. Maniaci suggests defining the book by assessing if it is made up of one or several units ("*codice monoblocco*/*pluriblocco*", approximately corresponding to Gumbert's "*monomerous/composite*"[285]), and if it includes one or several texts, i.e. mono-textual vs. multi-textual ("*monotestuale*/*pluritestuale*"), and accordingly outlines a systematic classification[286].

Indeed, far from being a mere linguistic matter, the problem of finding a satisfactory terminology reveals the difficulty of describing a product characterized by a modular structure and non-fixed content. The identification of a miscellaneous book has been generally made on two different levels, namely the levels of content and of material structure. The former refers to the way different textual units are collected within a single manuscript (*mise en recueil* or *mise en texte*); the latter is concerned with the

[283] Cf. Petrucci 1986, 173: "*Libro unitario*/*libro miscellaneo*".

[284] According to the formal aspect, the proper counterpart of the adjective unitary (*unitario*) would be composite (*composito*), cf. Maniaci 2004, 87.

[285] Gumbert 2004, 40.

[286] The codex is classified as: unitary according to both the material and the textual aspect (*unitario-monoblocco monotestuale*); unitary from a textual perspective but articulated in single units that can potentially be combined in different ways (*non unitario-pluriblocco monotestuale*); non-unitary according to the textual aspect but copied within a cohesive structure in which the sequence of the textual units cannot be modified (*non-unitario pluriblocco pluritestuale*); non-unitary according to both the structural and the textual aspect (*non-unitario pluriblocco pluritestuale*), cf. Maniaci 2004, 87f.

physical aspect of the book and the ways the codicological units have been put together.

Along with these two fundamental criteria, the graphic aspect has been taken into account as well. Variations in the handwriting are clearly relevant for our determination of the arrangement of a manuscript even though their relationship with the content and physical structure needs to be individually evaluated. It does not represent, in fact, an unconditional criterion, since different scribes taking turns writing the copy of a single codex might distinguish either units separately added at various times, or a book collectively conceived within a unitary project[287].

As shown by the surviving manuscripts, all these components interact with one another in extremely diverse manners, and thus they can be examined according to general tendencies better than according to universally recognized patterns.

I refer to the object of my survey as the 'miscellaneous' codex, a term which I use to mean a manuscript containing a succession of different works by one or more than one author copied as entire texts. I basically adopt the definition given by Petrucci and Maniaci[288], rather than the one by Ronconi, who includes among miscellaneous books only those preserving at least two texts by different authors[289]. Although I am very conscious of its limits, I find this definition suitable for the subject of my contribution, as the original structure of the codex is often no longer recognisable, and the textual aspect becomes prevalent to some extent.

One must bear in mind that the ancient world did not elaborate a specific terminology with regard to the miscellaneous codex and therefore all the terms so far mentioned reflect a modern perception[290]. In the same way, the concepts behind these terms belong to modern scholars and are not necessarily attributable to Byzantine authors and readers. From a historical perspective, the distinction between miscellaneous

[287] Maniaci 2004, 78.

[288] Petrucci 2004, 5: "Codice miscellaneo è un'unità libraria comprendente più testi di uno o di più autori diversi in successione […]"; Maniaci 1996, 211: "volume omogeneo contenente testi di vario argomento di uno solo o di più autori".

[289] Ronconi 2007, 10: "un manoscritto […] recante almeno due testi di autori diversi […]".

[290] Photius in the *Bibliotheca* (9th AD) refers to miscellaneous books by using the terms βίβλοι, βιβλία, τεύχη, βιβλιδάρια, δέλτοι. All of them normally define the codex in a general sense, and therefore indicate that a clear distinction at this point has been not yet made, cf. Ronconi 2007, 7f.

books containing texts of one or more authors and concerning topics that are more related or less related to each other is only acceptable to a certain extent. What may appear heterogeneous from a modern point of view was probably perfectly cohesive in its original context, since it was conceived for specific purposes according to precise criteria.

The second aspect I would like to address concerns the methodological principles that have guided this inquiry[291]. First of all, it is worth making one methodological caveat axiomatic, namely that the examination of papyrological evidence is certainly defective and subject to some unavoidable conditions, i.e. the fortuitous excavation of the artefacts and their fragmentary state that may be crucial in preventing heterogeneous materials from being recognised as belonging to a single miscellaneous book which has only partly survived[292].

Even in well-documented cases, it is not always possible to satisfactorily discuss all the central issues concerning the composition of the manuscript, for instance finding out how many units each book contained and how extensive each of them was. If some reasonable answers are to be found for some texts, it would be a methodological mistake to generalize these answers and apply them to the other manuscripts. While the positive results of such an inquiry can to some extent be irremediably compromised, a careful observation of textual and physical characteristics of the artefacts, however, allows us to offer at least a few conjectures on some major

[291] The foundation for a systematic methodological approach has been laid by Gumbert 1989, 4-8.

[292] In one case, the proper analysis of the manuscripts is compromised by their loss in modern time. An emblematic example is provided by *P.Ant.* III 186 + *P.Ant.* III 139 (5th AD; MP^3 456.2, *LDAB* 1073). *P.Ant.* 186 is a large papyrus codex assigned to the 5th-6th century preserving the remains of Gal., *De comp. med. per gen.* VII 10. More than thirty years after the first edition, also *P.Ant.* 139 fr. 1 *(b)*, originally classified as anonymous, was identified with Gal., *De comp. med. per gen* XIII 999.18-1000.6 and XIII 1002.12-17 by Morelli, who claims that *P.Ant.* 139 fr. 1 and *P.Ant.* 186 belonged to the same codex. In particular, it seems likely that they preserve portions of the same lines not overlapping each other. Regrettably, *P.Ant.* III 139 is no longer traceable, and no images are available: the identification has been suggested exclusively on the basis of the first editor's transcription. An erroneous attribution is assumed at this point, as happened with *P.Ant.* III 184 fr. 11 (see *infra* § 4.2), but it is impossible to determine if also the remaining anonymous fragments of *P.Ant.* III 139 were part of the same artefact. The loss of the original makes it especially difficult to assess whether some palaeographical discrepancy occurred among these fragments. On *P.Ant.* III 186, cf. Barns – Zilliacus 1967, 142-153; Manetti 2008a, 10-43; on *P.Ant.* III 139, see Morelli 2010, 203-207.

questions concerning a scarcely explored area of Byzantine culture in 5th-7th centuries AD.

The reference units of such discourses should be the books as they were at the time, even though their precise and complete original extension and content are no longer clear today. In each manuscript, one must strive to identify the parts that used to circulate independently, and this means that one must pay attention to spots where important changes (text, handwriting, layout, material) are observed[293]. Identifying both textual and material discontinuities within miscellaneous codices is therefore a fundamental step in this investigation. The definition of these units involves a philological, codicological and paleographical analysis. The nature of discontinuity might be argued in different ways and it is very important to note that, in reality, any categorization sketches only potential or probable working units, namely what most probably seem to be the true working units of the manuscripts.

On this basis, a few distinctions have to be made in identifying miscellaneous books among the Antinoopolis medical texts. Firstly, according to the description provided by Petrucci, manuscripts preserving collections of texts progressively realised by various scribes in different places over time will not be regarded as miscellaneous codices[294]. Indifferently copied by a single hand or several scribes, homogeneous or heterogeneous in content, miscellaneous books are, however, the result of an intended and somewhat programmatic selection of texts.

[293] Gumbert 1995, 57-70. The most systematic and complete classification of the main discontinuities observable in a codex is found in Andrist – Canart – Maniaci 2013, 84-110. Discontinuities have been listed according to: 'Unités de support materiel', referring to the material of which the codex is made, and *e.g.* the possibility of binding both papyrus and parchment leaves in the same manuscript; 'Unités de chaiers', concerning the differences between quires; 'Unités de réglure', which is related to the technique of the copy; 'Unités de mise en page', which basically refers to the layout, i.e. possible variation in line extension, number of columns, or width of margins; 'Unités d'écriture' and 'Unités de mains', namely the changes in style and the interchange between different scribes; 'Unités de marques de succession', including page or quire numbers, and all signs which might define the progressive order of the texts; 'Unités de contenu', concerned with the textual aspect. The analysis of the changes in any feature of the manuscript represents for the authors the first step of the overall investigation. It is followed by the cross-examination of historical and geographical information available, and then by the comparison with archaeological data, in order to rectify possible mistakes and misrepresentations.

[294] Petrucci 1986, 173.

Secondly, it is important to distinguish between codices containing entire texts and those collecting only excerpts. Of course, such different kinds of compilations are an expression of a representative aspect of Byzantine culture: collections of entire texts as well as compilations of excerpts normally fulfilled practical tasks by serving as specialized and portable libraries; they reflect a conservative attitude, and were intended to preserve earlier works in a complete or shorted version. However, they evidently differ from one another as regards the interrelation between content and physical container.

A few scholars refer to the production of encyclopaedias, namely technical and literary texts containing passages from earlier authors more or less extensively rearranged, as the defining characteristic of Byzantine culture during the Age of Emperor Constantine VII Porphyrogenitus (10th century AD), and suggest the possible inclusion of collections of entire works in this typology of book[295]. At the current state of research, most of these claims have been brought into question, in particular the very existence of encyclopaedism in Byzatium, the 10th century as the most representative Age of this phenomenon, since the 'florilegic habit' in this period is rather an extension of cultural aspects already developed in 7th, 8th, and 9th centuries[296], and the assimilation of Byzantine collections of complete texts in this category. Beyond the controversial question of finding a definition for this literary phenomenon[297], it is necessary to point out that compilations of excerpts, better than collections of entire works, could also involve, along with a selection of texts, the

[295] Cf. *e.g.* Symenon Metaphrastes' menologion, a collection of saints' lives that has been possibly regarded as a religious encyclopaedia, cf. Lemerle 1971, 292ff.; see on the contrary Odorico 1990, 5f.

[296] Cf. Magdalino 2011, 143-159.

[297] 'Encyclopaedism' has been one of the most frequently used terms in regard to this phenomenon, cf. Krumbacher 1897, 563; Dain 1953, 64-81; Hunger 1978, 244, 361. However, it is far from being accepted by consent, and several contributors, who sceptically approach the concept of Byzantine encyclopaedism, also support the complete abolition of the term and the adoption of an alternative. A. Salsano argues that it is not legitimate to speak of encyclopaedia before the 18th century, when it was put to use in science and stopped being a condensed library or simply a depository of knowledge, but rather suggests for earlier assemblages of excerpts the term "raccolta", cf. *Enciclopedia* I, Torino 1977, 3-64. Odorico introduced the notion of "culture de la συλλογή" or "culture de recueil" – perhaps best rendered in English as "the florilegic habit" – with reference to the trend to work by *excerpta*, cf. Odorico 1990, 1-21; 2011, 89-107. On the terminology for defining condensed texts, including the term 'encyclopaedia', cf. van der Eijk 2010, 520 (see *supra* § 2.1).

choice of a framework into which each fragment had to be inserted, which implies a new concept of transmitting knowledge[298].

Thirdly, those codices preserving a sequence of different texts traditionally transmitted as inseparable and reproduced in a fixed way over time, such as epigrammatic collections or topic-related orations[299], will not be taken into consideration insomuch as the individuality of these texts was no longer perceived. An explanatory example is found in *P.Ant.* III 185 (MP^3 539.1; *LDAB* 1307), a papyrus codex assigned to the 6th century AD. It survived as a single fragment of a square sheet with wide margins written in an informal script, which contains remains of Hipp., *De natura hominis* XV on one side, and *De diaeta salubri* I (= *Nat.hom.* XVI Jouanna) on the other. Though the end of the first chapter and the beginning of the subsequent one have not been preserved, a third text copied in between has to be excluded since the estimated space lost in this manuscript is not sufficient to accommodate it. The sequence of the two works demonstrates that the last chapter of the Hippocratic *De natura hominis*, also known by the title *De diaeta salubri*, has been transmitted since late Antiquity as belonging to the same treatise, even though its authorship has been largely questioned[300].

4.2 Miscellaneous books from Antinoe

I shall offer a close examination of four miscellaneous medical codices, namely *P.Ant.* I 28, *P.Ant.* III 184, *P.Ant.* III 124, and *P.Ant.* III 127, with particular attention to their arrangement and the quality of the text. At a first glance, the number of these texts might appear scant and, indeed, it is if we consider the overall number of the Antinoopolis medical papyri. Nonetheless, the examples considered here have been taken from fragments widely scattered and for the most part anonymous. If we assume the changes in any feature of the manuscript as the basic principles for recognizing a miscellaneous book, it will be clear that their preservation is mostly

[298] Odorico 1990, 12.

[299] Such kinds of texts are often defined as *corpus* or also *sylloge*, but the latter term is better avoided in order to prevent ambiguity, see Maniaci 2004, 83.

[300] Cf. Lami – Manett 2008, 128.

fortuitous and does not reveal the real percentage of miscellaneous books circulating in this area.

This is confirmed by a look at the papyri containing the Hippocratic texts. Out of five codices, only two can be counted as miscellaneous since they preserve the introductory title of a new text (*P.Ant.* I 28) and the end of one treatise as well as the beginning of another text copied on the two sides of the same fragment (*P.Ant.* I 28, *P.Ant.* III 184). Such elements, which are unequivocal evidence of a miscellaneous book, do not occur elsewhere in these papyri. When these conditions are not verified, it might still be possible for fragments of different texts to be considered as part of the same codex if they are written by the same hand.

On this basis, however, it is extremely difficult to ascertain the existence of miscellaneous books copied by different scribes. In case a manuscript is in a single handwriting, a paleographical study may make it possible to recognize discontinuities in the copy and to assess, for instance, whether it was produced by examining only one example or by drawing from different sources. By contrast, when there is a lack of other striking peculiarities, it would be arbitrary to assign to the same codex separate fragments by different hands, even when they appear homogeneous in content.

Such considerations can be exemplified by a couple of papyri from Antinoopolis. One could ideally suppose that *P.Ant.* II 86 (MP^3 544, *LDAB* 1310)[301] and *P.Ant.* III 183 (MP^3 543.3, *LDAB* 1308)[302], both of which contain portions of the Hippocratic *Aphorisms* (respectively *Aph.* V 43-68; VII 36-43, 54-59, and III 20) originally belonged to the same codex. The examination of the artefacts reveals that they share common features such as the wide margins of about 5 cm at the bottom and 3 cm on each side; the aphorisms separated within the line by *vacat*; and the sloping book hand dating from the late 6th century AD, attributable to different scribes. When scripts are contemporary and layout is similar, a copy distributed among various

[301] Barns – Zilliacus 1960, 84-91; Fabrini – Manetti 2008b, 96-106.
[302] Barns – Zilliacus 1967, 126-129; Andorlini 2008, 89-96.

scribes might be plausible, but at present there is no evidence for considering these fragments as part of the same book.

While I have tried to present a few conditions that might potentially reveal a miscellaneous codex, I do not mean to overstate the percentage of these texts. It will be obvious from the start that this was not the only book type circulating in Antinoe, but that it represented one of the possible options for conveying medical texts. This inquiry into the miscellaneous codex does not include speculative results; evidence with a lesser degree of certainty is taken into consideration only when it offers reasonable ground for discussion.

The first text I shall consider is *P.Ant.* I **28** (MP^3 543, *LDAB* 1306), one of the three parchment medical codices that have survived in Antinoopolis. It contains the end of Hippocrates' *Prognostic* (24-25 = II 118.4-190.7) on one side and the beginning of *Aphorisms* (I 1-3) on the other[303].

On paleographical grounds, this codex had originally been assigned to the second half of the 3rd century[304], and slightly postponed by Andorlini (late 3rd-early 4th AD)[305], whereas Fabrini – Manetti assign the manuscript to the 5th century AD[306]. The inspection of the artefact does not seem to confirm the latter dating, and the comparison with *P.Ant.* I 12 (*LDAB* 2805, Cavallo – Maehler 1987, 8c), a parchment codex assigned to the mid 5th AD suggested by Fabrini – Manetti as a palaeographical parallel, reveals some inconsistency. Though a general resemblance can be traced in the style of writing of both examples, i.e. the upright letters and the tendency to rounded forms and loops, the script of *P.Ant.* I 12 more clearly shows features characteristic of the style known as "Alexandrian majuscule", which reached its ideal form not earlier than 5th-6th century AD, including the high contrast between thick and thin strokes (the so-called "chiaroscuro" or shading); the ϰ made in two strokes;

[303] Roberts 1950, 69-75; Fabrini – Manetti 2008a and 2008c.

[304] Roberts 1950, 69-75 compares *P.Ant.* I 28 with *P.Lit.Lond.* 192 and *P.Lund.Univ.* 20 (260-270 AD), and this dating had been substantially accepted by Turner 1977, 29. Third century AD has is indicated as the first option in the Mertens-Pack on-line database.

[305] Andorlini 2003, 20-24

[306] Fabrini – Manetti 2008a, 78. The codex is assigned to the 5th AD also in the Leuven Database of Ancient Books.

large ε; the α with a loop at the top; the χ and υ with their diagonals descending in a slight curve from a little curl; the cross-stroke of the ν almost horizontal. Especially in the shape of the α, ε and ϰ, *P.Ant.* I 28 seems to best illustrate characteristics of an earlier stage in the development of this type, insofar as the comparison with a few manuscripts dating from the late 3rd-early 4th century AD, such as *P.Ryl.* III (MP^3 1290, *LDAB* 2598, Cavallo – Maehler 1987, 8b) and *P.Bodmer.* II 63 (*LDAB* 2777), appears more convincing.

The artefact consists of a rather torn parchment sheet lacking the bottom margin and originally preserving a single column of 33/34 lines with approximately 25-33 letters running per line. While the width is certain to measure 11.4 cm, the height can only be calculated approximately since it is impossible to tell whether the end of the *Prognostic* was simply followed by the bottom margin or a more widely extended blank space. According to the *ed. pr.*, traces of a colophon may be recognisable in the margin below line 30, but four additional lines would be required to complete the passage according to the manuscript text. It is generally assumed by scholars that *P.Ant.* I 28 meets the conditions for inclusion in the group XI of parchment codices classified by Turner according to dimension, namely the typology of the 'square' codex of intermediate size[307]. The question is not merely formal, since square codices falling into this category are normally associated with portable handbooks, suitable in this particular case for practical use by a physician and therefore defined by Roberts possibly as "the local practitioner's *vade mecum*".

Though containing misspellings and phonetic mistakes (i.e. the common itacisms), the manuscript shows a refined layout. An introductory title is contained on side *(b)*: it is set in *eisthesis* at the top of the page, and is separated from the main text by a blank space and horizontal strokes above and below the line. It is worth noting that the text is carefully right-aligned, with the superlineation of ν occurring for this purpose in the last line, and that it is accurately divided into sections. *Stigmai* and blank spaces within lines are used to mark the end of text units on both sides, and are supplemented with *paragraphoi* in lines 4-5, 7-8, 12-13, 18-19 *(b)*. Only in two cases

[307] Turner 1977, 29.

do the *paragraphoi* indicate the end of one aphorism and the beginning of a new one (7, 18), which were copied following one another in the same line. Particularly in lines 4 and 12 such divisions have no parallels in the manuscript tradition; in one case, the splitting of the aphorism into two parts has been compared with Gal., *In Hipp. Aph. comment.* XVII 346.1-3; 347.9-11 and a few Byzantine codices[308], but section marks in this papyrus seem to be generally meant for enclosing portions of text regarded as particularly interesting.

Punctuation and marginal notes written in a small slanting style are in the first hand; the Hippocratic text on side *(b)*, in fact, is supplemented with two short titles in the left margin summarizing the content of the related aphorisms[309]. Not only does the same script reveal that annotations are contemporary to the main text, but more importantly the lectional signs, included within lines and forming a cross-reference system, demonstrate that marginal notes are not a later addition (see, for instance, the dotted obelus slanting to the left in line 7 *(b)*). The systematic use of punctuation is a striking point, as it refers to a skillful copyist who, though not being a professional scribe, was capable of a judicious approach to the text.

From a philological perspective, it should be noted that the Hippocratic text in *P.Ant.* I 28 differs in several points from ancient and Byzantine commentaries and has no particular affiliation with medieval manuscripts; however, the most significant discrepancy in relation to the inquiry on miscellaneous codex concerns the sequence in which *Prognostic* and *Aphorisms* were copied. For their brevity and handiness, these two treatises were considered as a preliminary step in medical studies, and have circulated side by side since Antiquity. However, *Prognostic* preceding *Aphorisms* in our codex finds parallels neither in medieval manuscripts nor in the medical *curriculum* of the School of Alexandria, where *Aphorisms* are always indicated first. Though the combination of the two treatises might be not fortuitous, the order in which they appear in *P.Ant.* I 28 suggests a collection following unconventional criteria.

[308] Cf. Magdelaine 1994, 213.
[309] Cf. McNamee 2007, 261.

What else the codex preserved cannot be stated, but to this regard the introductory heading of the *Aphorisms* on side *(b)* is significant. Particularly relevant is the name of the author prefixed to the title (Ἱπποκρά[τους ἀφορ]ισμοί): it supports the idea that not all the texts included in the codex were attributed to the same author.

This Hippocratic codex has been put in relation to a local medical school. In a few cases, scribal errors seem to result from a misunderstanding of what the scribe heard, and might therefore be regarded as evidence for note-taking during a lecture. It is equally reasonable to assume, however, that a scribe may have been reading aloud to himself while copying a private edition from a written source, possibly used as the basis of a separately transmitted commentary[310].

A second example taken from the Hippocratic texts is *P.Ant.* III **184** (6th AD; MP^3 545.1, *LDAB* 1309), which contains the remains of Hipp., *Superf.* (32, 33-34, 38-39, 41-42) and *Mul.* (I 1-2, 25, 32-33; II 174-175, 180-183, 205)[311]. It preserves the bottom of a page from a papyrus codex written in a careful, tidy book hand slightly sloping to the right. The vertical strokes of the letters appear decorated in their peaks, and the justification of lines on the right side is accurately defined by employing a superlineation of ν and smaller letters in the last line. The manuscript survived in several fragments; among those published in the *ed. pr.*, fr. 11, unplaced but assigned to the same hand, was later regarded as spurious[312]. Except for an oblique stroke in fr. 9 *(b)* descending from line 10 to 11 in the left margin, *P.Ant.* III 184 does not contain lectional signs and divisions into sections, as in the medieval tradition[313]. As claimed for *P.Ant.* I 28, the order in which the two treatises were copied has no

[310] Cf. Roberts 1950, 70; Andorlini 2003, 24.

[311] Barns – Zilliacus 1967, 130-140; Fleischer 1969, 640-641; Hanson 1970, 213-222; Lamberti – Manetti 2008, 113-125; 2008b, 130-133.

[312] Lamberti – Manetti 2008, 113.

[313] In the upper margin, however, fr. 3 *(a)* preserves incomprehensible traces of ink set at mid-page; it is not clear if it is a numeral, but it significantly appears on the page containing the end of Hipp., *Superf.* and the beginning of *Mul.* (I 1-2, 25, 32-33; II 174-175, 180-183, 205).

correspondence in medieval codices, suggesting once again an independent criterion of selection among apparently homogeneous texts[314].

Some mutilated manuscripts are more difficult to classify, and an intriguing case-study is provided by *P.Ant.* III **124** (6th AD, cf. *supra* § 2.4). Unlike the previous cases, no identification with already known texts is possible except for a short quotation from Hippocrates' *Aphorisms*. Moreover, no boundaries according to Gumbert's definition survive in these fragments[315]: they do not preserve the exact places where changes in the features of the manuscript occur, namely the end of a single unit and the beginning of a new one.

This manuscript contains the remains of a treatise on dietetics systematically arranged in questions and answers, as in the case of didactic purposes. While frr. 1 and 2, which are the best preserved, make it possible to identify this specific structure and assure their complete homogeneity as for content and arrangement, the remaining ones are smaller in size and preserved in poor condition. In some cases, it is still possible to identify portions of text ascribable to a dietetic treatise, but in a few others their content is uncertain and possibly not related to the same topic. One case is particularly significant, as the scanty remains on fragment 7 *(a)* overlap a passage on shadow-boxing by Antyllus *ap.* Oribasius (cf. *supra* § 2.2). To which kind of text this fragment belonged is difficult to state; in fact, except for lines 5-6, fr. 7 does not correspond with Oribasius, and presumably derives from a different source. However, this identification demonstrates that a different topic was contained at this point, and suggests a composite material in the codex. The medical treatise on dietetics and feverish patients in this manuscript, though resembling previous sources to a certain

[314] Erotianus' lexicon of Hippocratic words has been reported as the only possible, but unsatisfactory, comparison for the sequence of the two treatises. A gloss deriving from *Superf.* precedes those to *Mul.*; however, *Superf.* is not listed in the introduction, cf. Hanson 1970, 215 and n. 12. As far as an independent tradition of the Hippocratic and Galenic texts from Antinoe is concerned, it should also be noted that the papyrus text frequently diverges from the medieval manuscripts, and thus a complete restoration is not always possible: in a few cases, the differences consist in omissions or mechanical errors, but other lectures appear quite significant, and are equally valid or even preferable to those in the later tradition.

[315] Cf. Gumbert 1995, 57-70.

extent, might be regarded as an independent and cohesive text as far as content and internal structure are concerned. Different materials not ascribable to this model but copied by the same hand were reasonably added in separate sections.

Another possible miscellaneous codex is *P.Ant.* III **127**. Its classification appears quite problematic since no textual boundaries survive. These fragments contain a very composite material, and are heterogeneous both in respect to their content and their textual arrangement: the definition of such a discrepancy is striking insofar as this papyrus is to be regarded as a miscellaneous codex instead of a collection of medical excerpts. In fact, on both sides, fr. 1 preserves the remains of an anonymous anatomical treatise[316], basically theoretical, copied in a single column, whereas the remaining fragments contain medical prescriptions arranged in two columns[317].
Provided that the entire manuscript was written by the same hand, the different extent of the columns points to a discrepancy in the copy, probably corresponding to a change of source. Apart from glossaries, lexica and tabulations, the double column was a favored format in the parchment codex, but was rather infrequent in the papyrus ones[318], therefore one could suppose that a parchment example was the original source for this material.
A very important task would be to assess whether this different layout corresponds to a precise division between text units proper to a miscellaneous codex, or whether the papyrus contained a compilation of medical excerpts from various sources. What can be observed is that the pharmacological fragments, which seem to belong to a recipe book, probably preserved the copy of sections of considerable length rather than single prescriptions. In fr. 3, an approximate count of lines suggests a continuity between the texts on the front and back, both attributable to Alexander of Tralles; this

[316] For *loci similes* and possible attribution, cf. *supra* § 3.4.

[317] The discrepant layout of both sides of a papyrus sheet (two columns on the front and one on the back) is also attested in *P.Ant.* III 140 (cf. *supra* § 3.5.2). However, in this case it cannot be stated whether the fragment is an opisthograph or from a papyrus codex.

[318] The infrequency of double columns in papyrus codices has been explained by pointing to a utilitarian motive, since longish lines make it possible to economize material; by contrast, calligraphic parchment codices basically adopted the double column scheme in order to reproduce the narrow line-length characterising high-class papyrus rolls, cf. Turner 1977, 35f.

might support the assumption that the recipes were not singly excerpted but that a rather long passage was here entirely copied. On the other hand, it is extremely difficult to state whether or not the remains of the anonymous treatise in fr. 1 were portions of a complete text; in any case, it seems safe to say that what we have in this fragment and in the other ones was copied on different quires.

The combination of different content and layout points indeed to a boundary within the manuscript and makes the possibility of a miscellaneous codex a plausible hypothesis; in that case, another typology of miscellaneous book should be taken into consideration, namely the one including not only different works by one or more authors but also different genres.

These four examples thus represent two different typologies of miscellaneous codex. *P.Ant.* I 28 and *P.Ant.* III 184 are quite homogeneous in content: they apparently preserve works by the same author following one another in the same quire, meaning that they were worked in a single operation and were not intended to circulate separately. Nevertheless, the sequences of the Hippocratic texts do not correspond to the one established in medieval tradition but seem to follow autonomous criteria, and the author's name in the only title still extant suggests that texts by different authors were contained in the same codex.

P.Ant. III 127 and *P.Ant.* 124, on the other hand, preserve more composite material that is certainly attributable to different authors as well as different genres. Medical compilations were well-documented in Antinoopolis (cf. *e.g. P.Ant.* III 128), but in most cases it is not possible to discern codicological units because of their fragmentary condition. If the interpretation of these two examples is well-founded, we might suppose that various materials belonging to medical compendia were copied alongside medical treatises.

One might argue that such heterogeneous material, when not recognizable as part of a defined work, might invalidate the hypothesis of a miscellaneous codex in which complete texts perceived as single units were intentionally collected together. Was this material ever an independent book? This is a question one always faces with this

kind of small units. It might be noted that such fragments are too small to be bound singly, and, as a result, they were probably copied in order to be added to existing books as supplementary units. In the majority of cases, we simply have no basis for assessing precisely what kind of texts this material belonged to, and to what extent their internal structure was strictly fixed. The comparison with contemporary medical literature, however, points to a significant development of abridgments of previous sources, especially medical encyclopaedia or compilations, which formed individual works and became sources for further copies.

With regard to the layout and quality of the books, which basically depend on the specific culture, education and purpose of the writer, an important question has been raised, i.e. whether we should expect to recognize miscellaneous codices in high-quality school texts. The Hippocratic texts from Antinoe seem to have been contained in miscellaneous codices related to the didactic interests of a local medical school, in accordance with the development of this typology of text within the school environment between the 3rd and 7th centuries AD. It has been argued that such carefully arranged copies, in particular the parchment codex *P.Ant.* I 28, do not seem to confirm this hypothesis, since their formal standard is much higher than the one outlined for the first miscellaneous handbooks, which were functional to practical needs and characterized by low quality[319].

I believe that an explanation for this discrepancy might derive from the comparison with contemporary miscellaneous books and the socio-cultural context of Antinoopolis. An investigation into the miscellaneous codex was undertaken for the first time in the early 1980s, with the pioneering analysis of composite medieval manuscripts conducted by Robinson[320]. A few years later, Petrucci explored the development of the miscellaneous codex between the 3rd- 4th and 7th centuries AD in Greek-Roman culture [321], inspiring further research in the following decade. Increasing attention has been paid then to the evolution of the miscellaneous book in

[319] Cf. Fabrini – Manetti 2008, 79.
[320] Robinson 1980.
[321] Petrucci 1986.

Byzantine culture from a formal perspective, and an examination specifically focussing on Greek examples lately has been made by Crisci[322].

The most common book in the Classical Greek-Roman Era contained only one work by a single author – what is today called a monograph – or seldom more than one work by the same author collected in an organic *corpus*. On the contrary, in late Antiquity and the Byzantine period, the most frequently used books contained texts from different authors variously combined in a single manuscript. In contrast with the traditional book, largely homogeneous with respect to the linguistic, textual and formal aspect, the miscellaneous codex represents an interesting innovation in the way knowledge is organised. Its progressive changes over time need to be put in relation to the broader evolution of Byzantine society, where the process of transmitting knowledge left its mark on knowledge itself. With respect to the medical culture, the Early Byzantine Era – defined for convenience as extending between the 4th century AD and 642, the year of the Arab conquest of Alexandria – was a period of economic and social changes, in which the medical education system was being formed at the school of Alexandria and a new medical context developed in the first hospital institutions.

It is commonly accepted that miscellaneous books were not produced on papyrus rolls[323]. Of course, in a broader sense the process of collecting different texts in the same manuscript had started in the school environment much earlier than the 2nd century AD when the codex made its appearance, from the period of papyrus rolls when scribes or readers felt that they could use the limited space provided for copying school exercises and reading passages for didactic purposes[324]. This procedure, however, based on the assemblage of excerpts instead of preserving entire works, was not characterised by the interrelation between texts and the physical support which in later times led to the creation of the miscellaneous codex.

[322] Crisci 2004. A full state of research on this topic and a thorough discussion of discontinuities is found in Andrist – Canart – Maniaci 2013.

[323] Petrucci 1986, 173-187.

[324] See *e.g. P.Didot* inv. 7171 + 7172 (2nd BC; M-P^3 31, 401, 1319-20, 1435, *LDAB* 1048); *P.Cair.* inv. 65445 (3rd BC; M-P^3 2642, *LDAB* 1054); cf. Petrucci 1986, 175f.; Crisci 2004, 111f.

The earliest examples of miscellaneous codex mostly consist of religious texts on papyrus excavated in Egypt and dating from the period between the 3rd and 4th centuries AD. Homogeneous as regards content but with a variety of linguistic usage (both Greek and Coptic), these codices collected texts according to a cohesive project rather than fortuitous additions. Moreover, their purpose reflected the cultural interests and doctrinal ambitions of local communities, Christian and non-Christian alike, among which the circulation and exchange of books were frequent and literary texts were preserved for apologetic or polemic purposes, as shown by the Nag Hammadi codices (4th AD)[325]. Comprehensiveness is one of the main advantages of the codex form over the roll, therefore such books promoted the individual and collective usage of different texts within the school environment: they made it possible have at one's disposal a large variety of material, and to improve writing expertise, cf. *P.Hamb.* I (6th AD; MP^3 356, *LDAB* 816)[326].

In the early phase of its progressive formal definition (approx. 3rd- 4th century AD), the miscellaneous codex essentially complies with functional needs and appears as a marginal product peripherally situated in comparison with book production in late Antiquity, conceived to circulate privately in small circles of readers, not necessarily rigidly structured, rather than for selling[327]. From a formal point of view, such texts were created using poor quality material, i.e. thick, unrefined, sometimes re-used papyrus sheets, often small in size and normally forming a single quire, characterised by variations in the width of the sheets, narrow margins and spaces between lines. In most cases, they were copied by non-professional scribes; scripts are informal, at times cursive, mostly rushed and untidy, and spelling mistakes frequently occur. Moreover, arrangement is poor, with different texts following one another on the same side of a sheet; texts are divided by using simple ornamental lines or titles, only occasionally supplemented with blank spaces, and lectional signs, when employed, are basic and unrefined.

[325] Cf. Barns – Browne – Shelton 1981; Robinson 1988.

[326] Cf. Crisci 2004, 109-144.

[327] Cf. *P.Barc. Fond. S. Luca Evangel.* 149-157 + *P.Robinson* inv. 201 (4th AD), written both in Latin and Coptic.

From the late 5th-6th centuries onwards, however, high-quality miscellaneous codices, manufactured either in parchment or papyrus and characterised by a formalised structure, replaced the previous low-quality products. To some extent, this change is due to the fact that, at that time, library examples progressively exceeded in number the evidence derived from excavation, and libraries notoriously used to preserve valuable copies. Nevertheless, the new features of these miscellaneous books cannot simply be attributed to the conditions of their finding, but must also be explained as substantial changes in book production and usage. Something changed in the type of texts the Byzantine people were interested in both as regards composing and copying, and without making generalizations that hold true for any socio-cultural context, we need to look at specific text composition and make sure to contextualize it adequately within its cultural and functional environment.

Very elegant and valuable manuscripts on parchment were found in Italy under Gothic domination: their content varies greatly, from Greek tales and Latin satiric poems[328] to more technical texts, as richly illustrated and extremely refined Gromatic writers' works[329], or herbal and medical writings[330]. Although not devoid of practical intent, such as private study, individual reading or religious education, they are not school texts and demonstrate that the miscellaneous codex might be a higher-profile product.

The scarce papyrus evidence surviving from Egypt also confirms these general characteristics[331]. Even if not properly luxury copies, they include good quality manuscripts written in tidy and accurate scripts, not calligraphic but with a tendency to formality, and preserve texts attributed to different authors but pertaining to a single genre. Significantly, they were intended for private study rather than for school, and circulated within a socially and culturally sophisticated environment.

[328] *Codex Thebanus* (6th-7th AD; MP^3 244, *LDAB* 543), a parchment codex preserving the remains of the Charithon's novel about Callirhoe, and an anonymous one about Chione. For satiric poems, cf. *Vaticanus* CLA 29 (6th AD).

[329] CLA 1374 *a* and *b* (5th-6th AD).

[330] Cf. Cavallo 1983, 30ff.

[331] Cf. *e.g. P.Cairo J* 43227 (5th AD; MP^3 1301 + 375, *LDAB* 2745): it contained a *corpus* of Greek comedies including four of Menander's works and at least one by another author, i.e. Eupolis' *Demoi*.

Such codices might have belonged to a library that was progressively enlarged with the addition of copies by learned readers rather than professional scribes. A similar cultural environment might be imagined for the Antinoopolis medical texts. These codices assigned to the 5th-7th centuries comply with the general characteristics of the miscellaneous book in a subsequent phase of its development.

According to this historical reconstruction, the proper comparanda for *P.Ant.* I 28 are not the early miscellaneous codices of the first religious communities or local schools, but rather the literary copies by the Greek-Roman elite, which should not be regarded as conflicting with learning or practical use. If we assume that a refined parchment codex contained a study text in some way meant for school purposes, we might easily agree that it was also a miscellaneous book. In fact, the possible discrepancy does not concern the connection between a miscellaneous codex and a high-quality manuscript, but rather the combination of a refined manuscript with a school text. In this case, the overall features of the artefact reveal that the same book was possibly conceived for multiple functions: it might have been used as a support during lectures, but was also composed as a private copy according to a personal selection of texts.

For further verification of these considerations, we have to turn to the socio-cultural environment to which the Antinoopolis papyri belonged. Designed as they were for reading in a scholastic or private setting, what information can we glean from these manuscripts about their intended audience? It is evident that details of their production provide some vital context for such medical works.

A primary physical feature of the codex is its format, which can be expressed in terms of the dimensions of single pages and the proportion of width to height. This plays a striking part in the investigation, as it allows getting a first impression of the quality of the book, generally commensurate to the size of the papyrus and its usage, as square books tend to identify portable manuals. According to classification by dimension, the Antinoopolis medical papyri mostly attest to medium-large and 'square' codices (cf. Turner 1977, typologies 98, 99, 99a, 99b, 99c).

Certainly important is also the material of which artefacts are made. In the early Byzantine period, the papyrus was the most frequently used material for study copies and books for teaching, while parchment was preferred for higher quality library copies[332]. The parchment codices brought to light in Antinoopolis are generally associated with a well-refined script, almost exclusively for copies of the Sacred Scriptures circulating within the monastic communities of the town, or prestigious authors such as Demosthenes or Isocrates. Nevertheless, at least in one case, they also preserve more technical writings, i.e. the Hippocratic treatises[333]. The preference for papyrus for the copying of medical texts, besides reflecting their nature of technical and study texts, may be considered a choice made for conservational aims.

Another outstanding feature shared by all these medical codices is the inclusion of considerably wide margins. Large Byzantine codices provided with generous margins, even when representing elegant copies meant to be exhibited by their owners as luxury products, were functional to writing practices insofar as they could contain commentaries and annotations by learned scholars, exegetes, school teachers and specialists in technical disciplines. The addition of material taken from other sources was an established practice in late Antiquity, well-documented by the medical papyri from Antinoe, whose wide margins were used for the exegesis and the enrichment of the text.

Although mostly copied on papyrus, these codices attest to a production of books at a considerable level. The homogeneous content and the choice of specifically didactic works, as well as the addition of marginal annotations and the use of lectional signs meant as reading aids, point to study copies arranged according to practical needs

[332] For the dichotomy between roll and codex, papyrus and parchment and their different functions, cf. Cavallo 2002; for further bibliography see Reggiani 2010, 97-135.

[333] Menci 1998, 52, who first discussed the use of parchment among the Antinoopolis codices, argues that this material was regularly employed for high quality editions. However, in a few cases it has to be assumed that parchment was used also for less valuable manuscripts, i.e. *P.Ant.* I 26 (2nd-3rd; MP^3 1564, *LDAB* 4189), and *Ant.* 320A. An explanation for parchment books of lower quality might be their extra-Egyptian origin, or the cultural influence of extra-Egyptian centres where parchment was more commonly employed, cf. Del Corso – Pintaudi 2015, 12.

rather than library copies[334]. Deriving from archaeological excavations of the *kimân* in the Egyptian *chora*, they belonged to a peripheral area and, in this context, a substantial level of philological studies could be achieved within a local school, whose existence would be confirmed by the comparison between the exegetic annotations on Hippocrates' texts and the contemporary commentaries produced in the urban learned community of Alexandria[335].

In the Byzantine period, medical education was acquired either by training with a practicing physician or by attending lectures by a professor of medicine[336]. The former way was well-established and more accessible, but the formal study of medicine was valued and considered as advantageous in many respects.

The social condition of Byzantine physicians could vary greatly, from high, i.e. famous doctors who practiced in the city attracting a wealthy clientele, to simple ones, i.e. physicians practicing in small communities. While most doctors gained their knowledge from apprenticeship and experience, usually maintaining a rather low status comparable to the one enjoyed by most craftsmen in Antiquity, others studied medicine as part of a more general, well-rounded education[337]. Studying medicine was not only regarded as a τέχνη addressed to practitioners, but also as a science involving an audience of sophisticated, culturally literate class and young citizens

[334] As far as Hippocratic texts are concerned, marginal annotations are preserved also in *P.Ant.* III 183 (6th AD; MP^3 543.3, *LDAB* 1308), which contains the remains of *Aph.* III 20, 23-24; III 29, 31; IV 1; IV 5. In this papyrus codex the main text, copied in a large book-hand, is arranged in a single column, whereas the lower and lateral margins contain *scholia* to *Aph.* III and IV, written in a small, informal and quite untidy style by a different hand, attributable approximately to the same period as the Hippocratic copy, cf. Barns – Zilliacus 1967, 127-129; McNamee 2007, 262-264; Andorlini 2008, 89-96. At fr. 2 *(b)* l. 4, the numeral δ = 4 has been added, written in the left margin by the first scribe, probably denoting the beginning of the fourth book of the *Aphorisms*, followed by a further letter not clearly legible; if it is *alpha*, it could mark the first aphorism of this section, cf. Andorlini 2003, 24-26. Exegetic annotations in the margins are also preserved in *P.Ant.* III 125 (6th AD; MP^3 2383.1, *LDAB* 6317), a papyrus codex containing the remains of a treatise on dietetics which shows resemblance to a passage by Herodotus *ap.* Aetius: on fr. 2 *(a)* the same scribe added an amendment or *varia lectio* in small letters. The precise book hand and the considerably wide margins of at least 5 cm indicate a beautiful, though not calligraphic, large-sized codex, cf. Gonnelli 1997, 170-172.

[335] By c. 550 AD teachers began to produce commentaries on the classic texts of Greek and Roman medicine; on the role of Alexandria in medical instruction, cf. among many Nutton 1993, 11-31; Roselli 1998, 217-232; Vallance 2000, 95-113; von Staden 2004.

[336] Cf. Duffy 1984, 21-27.

[337] Cf. Blockley 1980, 89-100.

being trained for future offices[338]. Greek medical science originated in philosophy and was therefore transmitted as a theoretical discipline part of the ἐγκύκλιος παιδεία[339].

During the 6th century, we find doctors involved at a very high level of public activity, holding positions in civil and social services, and even playing a leading role in negotiations and embassies. In fact, a significant example of a wealthy doctor was Phoebammon of Antinoopolis, who earned annual retainer of sixty *solidi* from the hospital[340]. Such doctors, who might have even been called upon by the State for diplomatic missions, owed their selection and their distinguished social position to the fact that they belonged to a well-trained elite.

One might suppose that a similar medical education was provided in Antinoe[341]. Of course, the assumption of such theoretical teaching by no means excludes medical training. It is particularly hard to mark the line between doctors or doctors-in-training and a non-specialist audience with strong but amateur interest in medicine, often referred as *philiatroi*[342]. It appears clear from the fact that both study texts containing medical commentary and philological exegesis and handbooks likely to be meant for daily practice show similar overall characteristics, such as careful layout, accurate right/left justification, wide margins and annotations[343].

More about this tradition of a well-rounded education might be learned from a comparative study of other types of study texts from Antinoopolis attesting to a number of primary and secondary schools in town but also private learning outside

[338] Cf. Hohlweg 1989, 165-188; Cavallo 1993, 43-56.

[339] Galen regards himself as much as philosopher as a doctor, and expects that his works will attract not simply medical students but cultured, educated men, cf. *De dign. puls.* VIII 766; *De alim. facult.* VI 584; *De anat. admin.* II 291. For the close connection between medicine and philosophy and its necessity for good medical practice, cf. Plut., *Moralia* 122B; Eunapius, *Vit. Soph.* 504-505.

[340] *P.Cair.Masp.* 67151, 570 AD. For other examples of wealthy doctors, cf. Nutton 1984, 11; Prioreschi 2001, 127.

[341] On the intellectual elite engaged in medical study, cf. Johnson 2010, 74-97.

[342] Galen, *De san. tuenda* VI 269; see also *philopharmakos ap. De comp. med. per gen.* XIII 636, and *philologos ap. De peccat. dign.* V 92, cf. Johnson 2010, 82.

[343] Cf. *e.g. P.Ant.* III 126 (6th-7th AD), which contains the remains of a medical encyclopedia on surgical and pharmacological treatment of tonsils, and preserves in the lower margins further prescriptions added by the same hand, collating another example(s), see *supra* § 2.3. This manuscript met the professional needs of a practitioner and still maintained the status of a good-quality study text.

the school. They include both poetic texts supplemented with *marginalia*, which are the ordinary explicatory tools of the *grammatikoi*, and technical books especially related to tachygraphy, whose study was regarded as a considerably advantageous skill for specific administrative and legal careers associated with certain elite and sub-elite professions[344].

Let us come to a brief examination of further evidence and some concluding remarks. As far as poetic texts are concerned, one of the most significant examples is *P.Ant.* s.n. (MP^3 1487, *LDAB* 4004), a large codex on papyrus edited by Hunt – de Monins Johnson in 1930 and assigned to the late 5th century AD[345]. It contains fragments of Theocritus' *Idyllia* and numerous additions both in the margins and spaces between lines, especially lectional signs, *glossae* and mythographic *historiai*[346]. As for medical books, statements regarding the content or linguistic explanations find no correspondence with the medieval manuscripts, thus revealing an independent exegetic tradition and point to notes written down ἀπὸ φωνῆc during lectures. It is reasonable to assume that the reading public of such books belonged to the Coptic *milieu* of Antinoe, eager to improve their knowledge of the Greek language and poetry[347]. In contrast with the Greek elite of Alexandria, which did not mix with the local one, an intercultural upper class competent in Greek, Coptic and Latin was formed in central Egypt, where Antinoopolis was located. Indeed, Greek literary education represented a badge of distinction for those aiming for outstanding civil and social positions[348]. Also of interest is *P.Ant.* III 169 (4th AD; MP^3 1094.1, *LDAB* 2122), a beautiful parchment codex containing a copy of the *Odyssey* by a professional scribe and attesting to the circulation of literary texts among the cultural

[344] Several tachygraphic texts dating from the 3rd to 5th centuries AD have been discovered in Antinoopolis, namely *P.Ant.* I 1; *P.Ant.* I 2; *P.Ant.* I 3; *P.Ant.* I 6 + *P.Ant.* III 209; *P.Ant.* I 4 + *P.Ant.* III 208; *PSI* inv. 281 + 2014; *PSI* inv. 116, and schools of tachygraphy are mentioned by Theodoret, *Hist. Eccl.* IV 18, 7-14, cf. Menci 1998, 49-53.

[345] The artefact was excavated by Johnson in 1914 in *kôm M*, where the medical papyri were also found, cf. Hunt – Johnson 1930, 19-87. Turner later recognised a fragment of *P.Ant.* III 207 as belonging to *P.Ant.* s.n..

[346] Cf. McNamee 2007, 376-427.

[347] Montana 2011, 277-310.

[348] Cf. Morgan 1998, 74-89, Cribiore 2001, 249f.; for other Greek literary papyri from Antinoe, see Menci 1998.

elite of Antinoopolis[349]. It is a refined manuscript, possibly a library copy, not intended for the school environment and still assimilated to other contemporary Homeric codices of varied provenance in which titles and book numbers on the top page made it easy to find specific passages to be committed to memory[350].

Lastly, with regard to beautifully written copies obviously reflecting aesthetic interests rather than professional ones, striking evidence is offered by the Illustrated Herbal of Antinoopolis, i.e. *P.Johnson* + *P.Ant.* III 214 (early 5th AD). The manuscript consists of several fragments of a papyrus codex containing on each side the illustration of a plant accompanied by its name and therapeutic uses. Based on textual similarities, it seems likely that there is a direct relationship between this codex and the *De virtutibus herbarum* by Thessalus Trallensis, of which our text represents a condensed version (cf. *supra* § 3.5.4). It has been observed that the very general content, the abridged information and relative lack of detail would not have been of great practical utility. Moreover, the manner of composition, i.e. both sides of the sheets have fibres running horizontally, resulting in a more secure surface to preserve the text, is of rare quality and along with the carefully rendered illustrations, contributing to the predominantly aesthetic value of the codex[351].

Two important features, however, need to be considered. Firstly, a second scribe, dating not much later than the first, added notes and explanatory details in the lower margin and interlinear spaces (cf. *P.Johnson (b)* ll. 6, 9). It seems that he wished to supplement the text with additional cures, signal the end of a recipe explaining what it was, and mark the end of the book or at least its botanical section. Secondly, the anonymous author took out the astrological and magical aspect of Thessalus' work, consequently also removing the scheme according to which the plants were arranged; as a result, it no longer corresponds to the order of the signs of the zodiac and planets but conceivably to an alphabetical order.

[349] For formal and palaeographical description, see Turner 1977, n. 184; Orsini 2005, 40-41.
[350] See extensively Cavallo – Del Corso 2012, 53ff.
[351] Leith 2006, 141-156.

It is known that Dioscorides' *De materia medica* was deliberately arranged according to physiological properties and that it originally had no illustrations, since it was conceived as a proper scientific treatise rather than a practical manual. Starting from the 4th century AD[352], however, the treatise was alphabetised and circulated with a supplementary iconographic apparatus, meaning that it was intended for practical usage. In the Byzantine period, both versions – the original and the illustrated rearrangement – were transmitted but their functions often overlapped: they fulfilled either scientific or technical needs, depending on the context in which they were employed[353]. This is best illustrated by the Vienna Dioscorides, an early 6th century manuscript of *De materia medica*[354]. This large-size parchment codex was copied in an extremely calligraphic script and contains several beautiful illustrations of plants and animals, each one on a single page. Even though the alphabetical ordering of the plants corresponds to the one in practical manuals, the manuscript was created as a luxury copy for the daughter of Emperor Anicius Olybrius, Princess Juliana Anicia, and reflected aristocratic medical culture with no practical purposes. In this respect, it is very interesting to note that in later centuries it was used as a daily professional handbook in the hospital built by the Serbian King Stefan Uroš II Milutin in Constantinople in the 14th century.

The Vienna Dioscorides is probably the best-known example, but not the only one; also *Laur.* 74.7, which contained a collection of about fifty medical writings by different authors copied in the 10th century AD for the aristocratic elite of Constantinople circulated four centuries later in the hospital belonging to the Church of the Forty Martyrs where professional medical knowledge was imparted.

In other cases, the practical use of luxury medical manuscripts at a later stage is not proven with a degree of certainty even though it could be supposed, as for the *Neapol. Gr. 1* codex, dating from the 6th-7th century AD and located in the Exarchate of Ravenna which contains Dioscorides' text, alphabetically ordered and illustrated. It

[352] Cf. Riddle 1985, 156-167; Scarborough 1984, 223.
[353] Cf. Cavallo 1993, 53ff.
[354] *Codex Vidobonensis Med. Gr.* 1, cf. Gerstinger 1970; Cavallo 1993 47f.

was created for an aristocratic cultural environment rather than a professional one, but still complies to some extent with the tradition of practical handbooks[355].

The resemblance between the Antinoopolis Herbal and Dioscorides' manuscripts is striking. It seems likely that our codex was not conceived as a medical handbook: its value probably went beyond practical use, and this attests to an interest in medical knowledge not directly related to daily practice, that presumably developed among the intellectual elite. However, it might also have been used as a study text, as the marginal annotations seem to suggest, and maybe even as a hospital handbook under different conditions. In Antiquity, the distinction between book functions was less clear than in modern times. Byzantine manuscripts demonstrate that different usages adapted to the circumstances and changed over time.

The examples taken from these literary papyri point out a few ways of acquiring an education and transmitting knowledge in Byzantine Antinoopolis. They testify to the existence of local schools and their formal aspect provides some information about their readership, which is likely to have been the members of a well-trained upper class. Good quality teaching books are preserved along with professional or refined copies, possibly belonging to specialized libraries and attesting to somewhat erudite studies.

4.3 Conclusions

This survey leads to a few cautious conclusions. As has already been pointed out, the production of the technical book was an evolving reality which witnessed some significant changes between the 5th and the 6th centuries AD. Among the Antinoopolis medical codices, it is verified in two main respects, namely the passage from informal annotations (*scholia*) to systematic *commentaria* in the margins, which has been the

[355] Cf. Bertelli – Lilla – Orofino 1992; it reveals its peripheral origin in some physical characteristics, i.e. style of writing and scheme of composition for pictures, cf. Cavallo 1993, 48f.

object of investigation by Andorlini[356], and the developing of refined manuscripts whose relevant material extends to more than one text.

Marginal annotations, which are not limited to the Hippocratic writings but also extend to other anonymous medical texts of different genres, demonstrate a philological attention as well as a scholarly interest and contribute to outline what McNamee defines as the 'missing link' between ancient and medieval commentaries[357]. They provide striking evidence on the progressive change in the use of the codex as a physical support, like the Antinoopolis papyri so far discussed in relation to the miscellaneous codex.

In fact, like the majority of earlier low-quality miscellaneous codices, these manuscripts are organic in their general content and were presumably addressed to a cohesive audience. Nevertheless, they introduce a few characteristic features of later miscellaneous books circulating in Europe in the High Middle Ages, which often include valuable copies containing very heterogeneous texts[358]. The Antinoopolis papyri are mostly good quality codices, carefully copied as study books probably by non-professional scribes for their personal use[359], and attest to a double tendency to combine diverse medical material, i.e. the compilation of excerpts in a single work and the collection of entire works in the same codex.

The functions involved in composing these texts and the cultural significance of these functions are enormously complex. They must have had a great influence on the practice of reading and studying in late Antiquity and raise some interesting questions about the relationship between medicine, scholarship and authority.

In this paper, I have tried to reconstruct some aspects of the possible context in which medical knowledge was transmitted. In particular, I hope to have shown that, in a

[356] Andorlini 2003, 9-29.

[357] McNamee 1995, 399-414.

[358] From the 8th century onwards, miscellaneous codices might include very different texts, *e.g.* liturgical texts alongside medical, historical or grammatical treatises. On the circulation of this typology of books, probably originating in this period in insular western Europe, cf. Petrucci 1986, 185f.

[359] Calligraphic or properly format scripts are not attested among these texts; however, it is generally documented that professional readers were used to commission medical copies for their private use, cf. Turner 1956, 141-146.

peripheral area such as Antinoopolis in the 5th-6th centuries AD, the miscellaneous codex was a typology of book of equal dignity, probably employed in the school environment but no longer or not necessarily designed for low-quality handbooks. Grammar exercises and literary textbooks point to a Greek-based education involving a rather restricted cultural elite, while a number of technical texts demonstrate that interest in various scientific fields completed this philhellenic education[360] and, indeed, the study of medicine was a significant part of their educational background.

[360] Cf. Menci 1998, 51. On late antique book of technical content on the borderline between scholarly and practical use, cf. Garzya 1981, 263-287; Cavallo 1981, 395-423.

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FIGURES

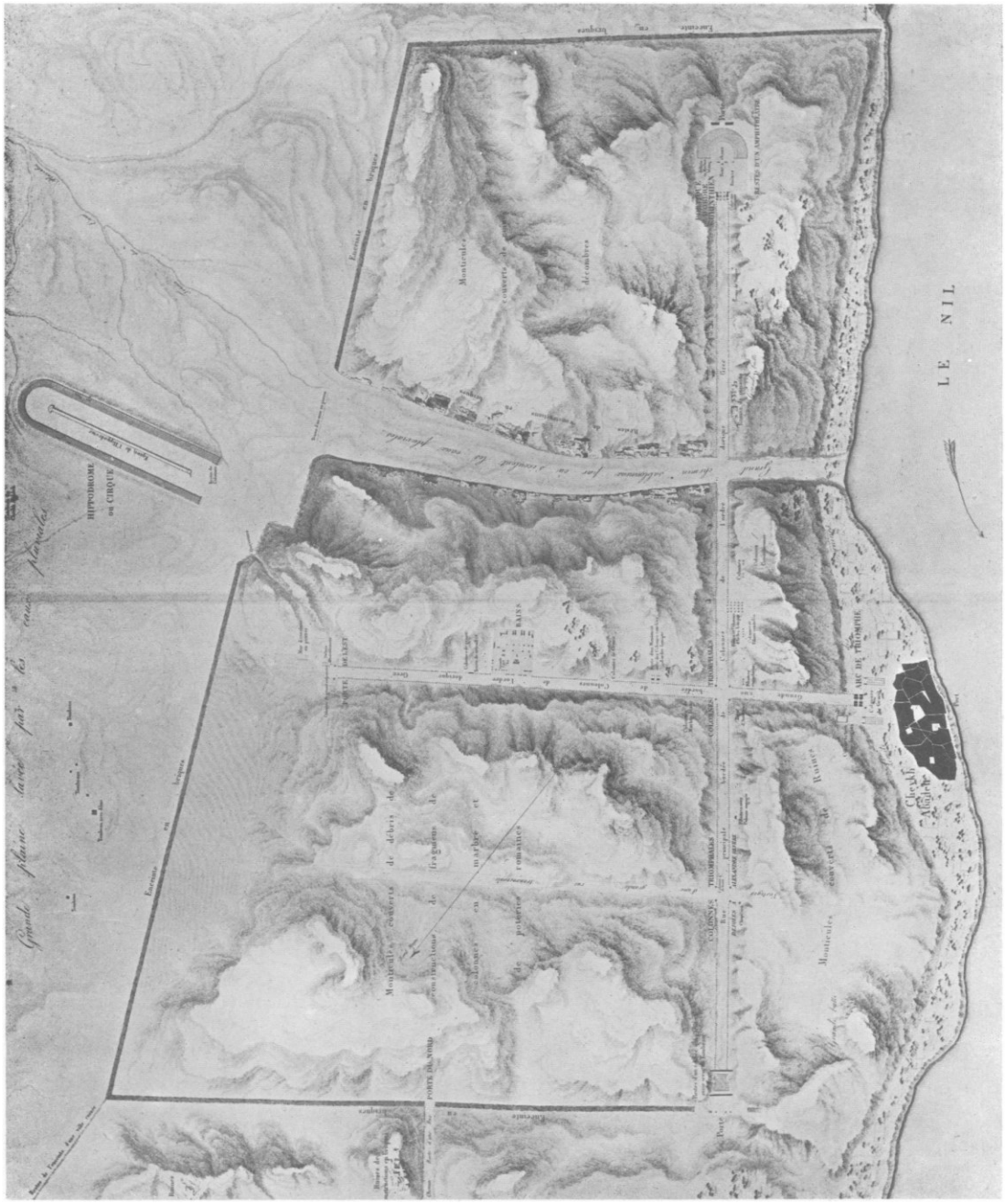


Fig. 1 – Plan of Antinoe (de Monins Johnson 1914, 168 from *Descr. de l'Égypte*, vol. IV plate 53).

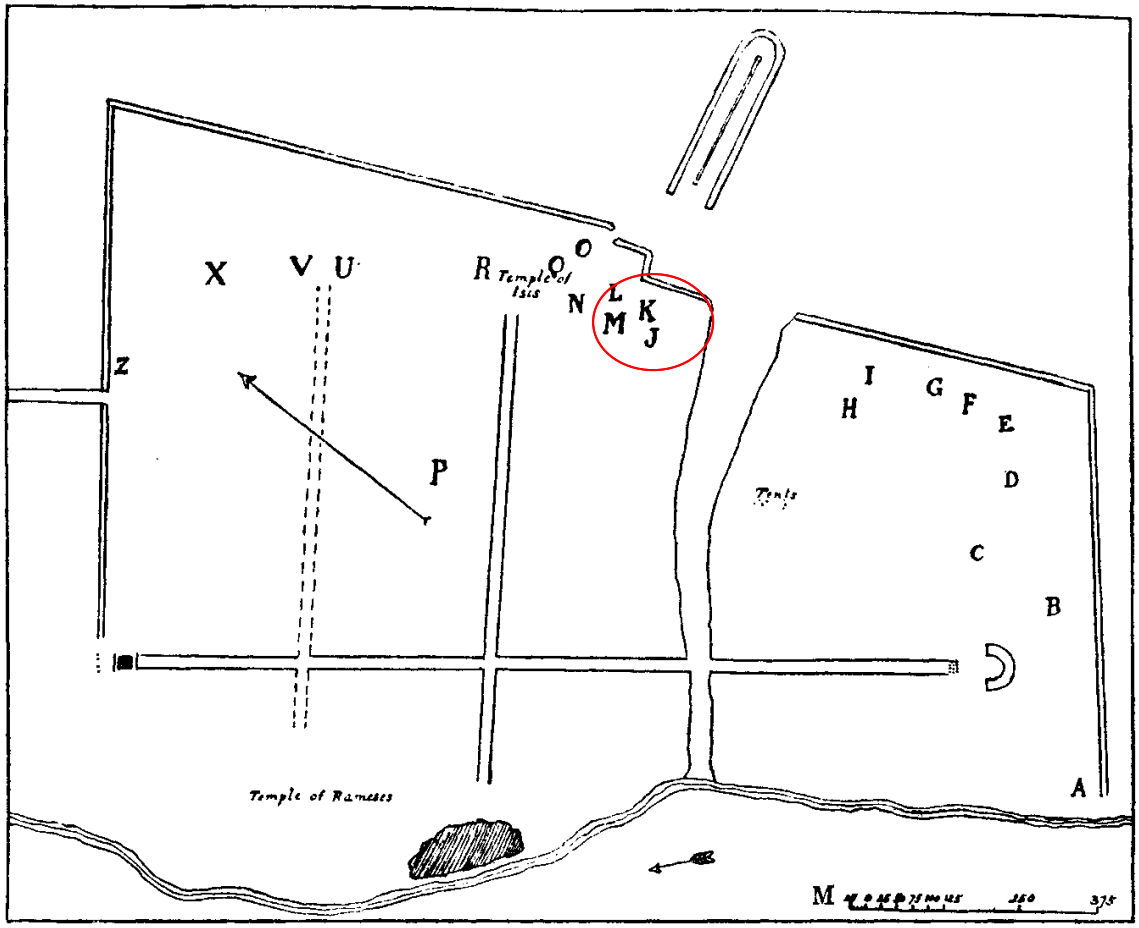


Fig. 2 – Plan of mounds (de Monins Johnson 1914, 173).

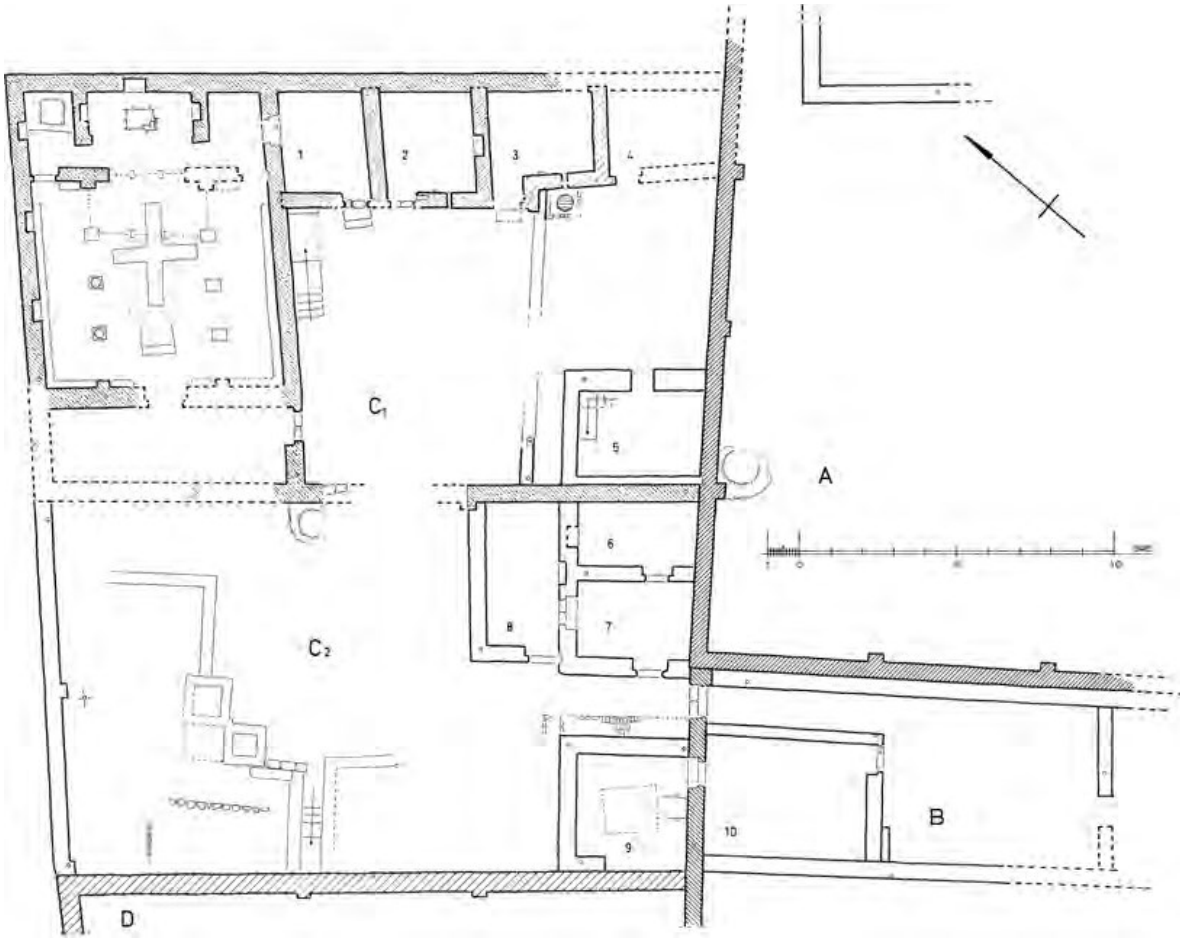
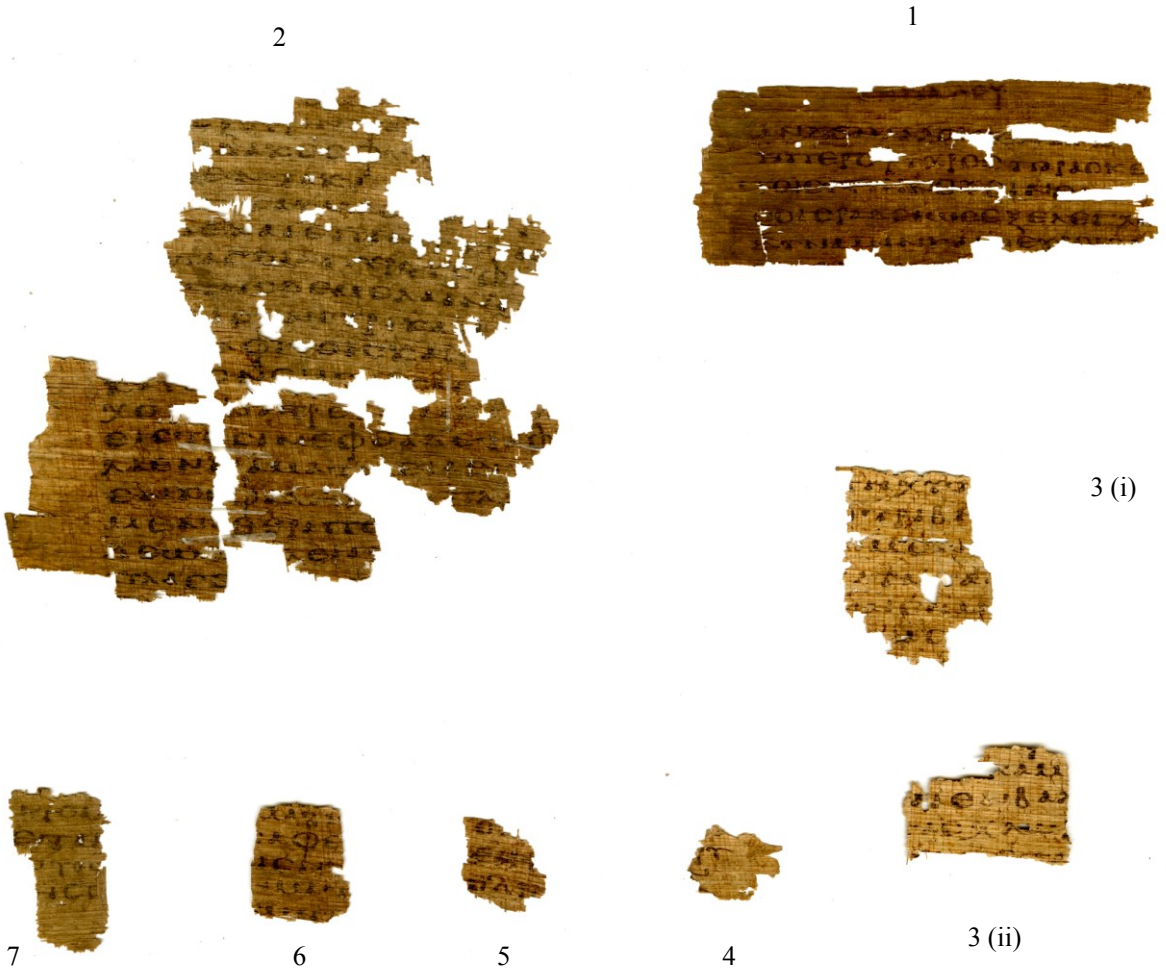


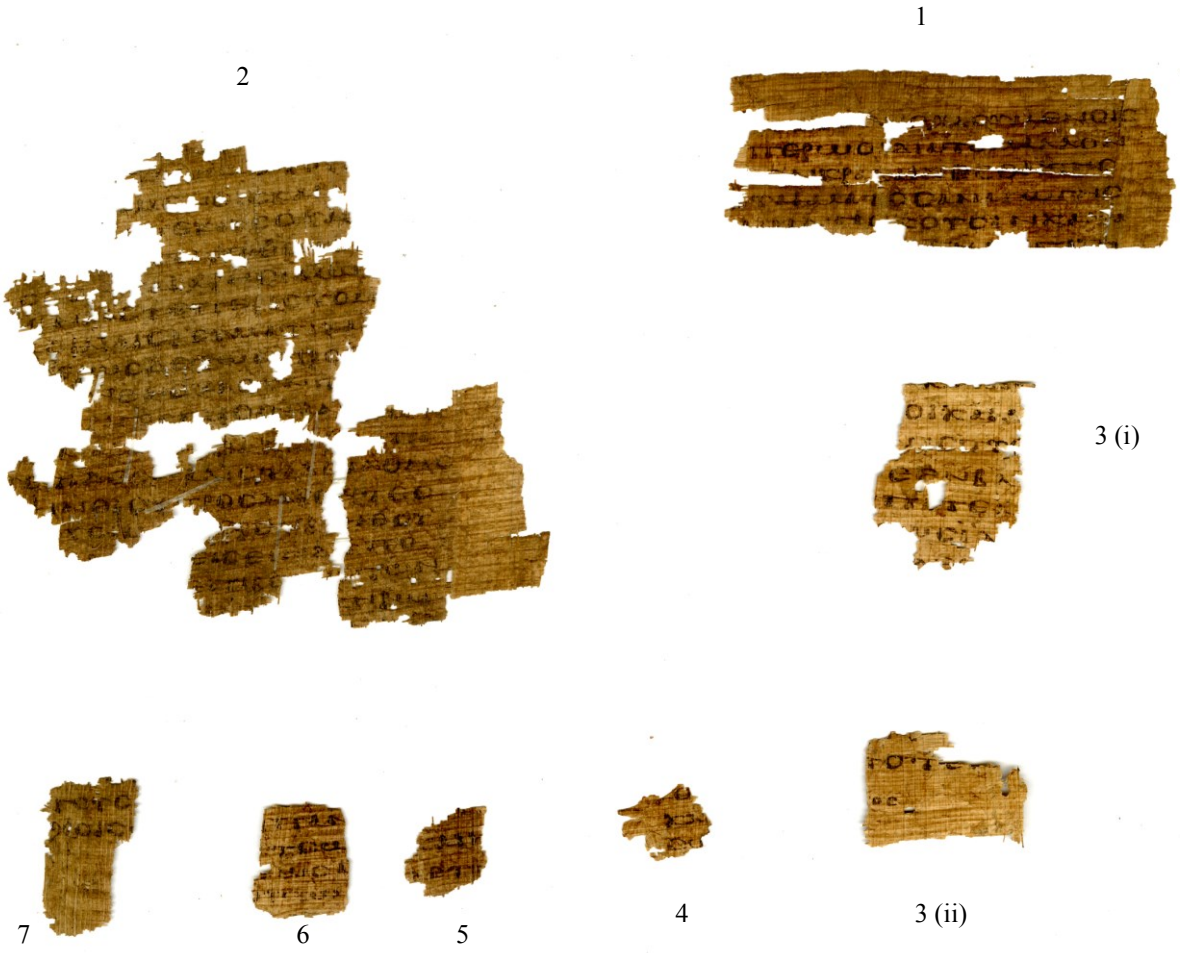
Fig. 3 – General plan of the Collouthus-*area* (Grossmann 2014, 243)

TABLES



P.Ant. III **128** *recto*

(*Courtesy of the Egypt Exploration Society and the University of Oxford Imaging Papyri Project*)



P.Ant. III **128** *verso*

(*Courtesy of the Egypt Exploration Society and the University of Oxford Imaging Papyri Project*)

P.Ant. III **126** *recto*

(*Courtesy of the Egypt Exploration Society and the University of Oxford Imaging Papyri Project*)

P.Ant. III **126** *verso*

(*Courtesy of the Egypt Exploration Society and the University of Oxford Imaging Papyri Project*)

P.Ant. III **124** *recto*

(*Courtesy of the Egypt Exploration Society and the University of Oxford Imaging Papyri Project*)

P.Ant. III **124** *verso*

(*Courtesy of the Egypt Exploration Society and the University of Oxford Imaging Papyri Project*)

P.Ant. III **127** *recto*

(*Courtesy of the Egypt Exploration Society and the University of Oxford Imaging Papyri Project*)

P.Ant. III **127** *verso*

(*Courtesy of the Egypt Exploration Society and the University of Oxford Imaging Papyri Project*)